



United States
Department of
Agriculture

Tongass Land and Resource Management Plan

Forest Service
R10-MB-603f



Final Environmental Impact Statement

Plan Amendment

SUMMARY



Tongass National Forest

Welcome

This Summary accompanies the Final Environmental Impact Statement (EIS) for a proposed amendment of the Tongass Land and Resource Management Plan (Forest Plan). Also included with the Summary are the Record of Decision (which selects Alternative 6 with minor modifications) and the amended Forest Plan. Most reviewers will receive an electronic version of these documents on a CD. The CD contains a cover letter, the Final EIS in two volumes, alternative maps, the Record of Decision and its accompanying maps, the Forest Plan, and a number of reference maps. These documents and maps are described when you open the CD.

A comprehensive Web site covering the Forest Plan adjustment process was developed to assist the public in reviewing and commenting on the various documents and maps developed during the process. This site will continue to be available at www.tongass-fpadjust.net for a period of time. At some point in the near future, this site will be removed, and the important documents will be transferred to the main Tongass Web site at www.fs.fed.us/r10/tongass.

Publication of the Notice of Availability for the Final EIS in the Federal Register will initiate a 90-day appeal period. The closing date of the appeal period will also be posted on the project Web site.

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.

Summary

Introduction

Land and Resource Management Plans (Forest Plans) are required by the National Forest Management Act (NFMA) of 1976. The 16.8-million acre Tongass National Forest, the largest forest in the National Forest System (NFS), was the first to complete a Forest Plan under the NFMA. The original Tongass Forest Plan was approved in 1979 and amended in 1986 and 1991. The Forest Plan revision process began in 1987 and the Final EIS, Record of Decision (ROD), and the revised Forest Plan were published in 1997. A Supplemental EIS that evaluated the wilderness potential of roadless areas was completed in 2003. The revised Forest Plan has been amended 28 times since 1997, primarily to adjust Old-Growth Habitat reserve boundaries and designate electronic/communication sites.

An August 2005 Ninth Circuit Court of Appeals ruling and the 5-Year Forest Plan Review, which was completed in January 2005, indicated the need to consider amending the Tongass Forest Plan. This 2008 Final EIS responds to the Court and the 5-Year Review by analyzing six alternatives for amending the Forest Plan in addition to the No-Action Alternative (Alternative 5). A separate document called the Proposed Forest Plan was published with the Draft EIS and represented the complete Forest Plan including all proposed amendments.

Purpose and Need

The purpose and need for this EIS is to respond to the Ninth Circuit Court's decision in *Natural Resources Defense Council vs. U.S. Forest Service* (421 F.3d 797, August 5, 2005). In that decision, the Court held that the EIS and ROD for the 1997 Forest Plan had errors relating to the use of projected market demand for timber, the range of alternatives considered relative to the market demand calculations, and the cumulative effects of activities on non-NFS lands. In addition, there is a need to consider adjustments to the Plan based on information generated during the 5-Year Review of the Forest Plan. Therefore, the purpose and need for this EIS primarily relates to the August 2005 Court decision, the 5-Year Plan Review, and other minor clarifications and updates.

Issues

Identification of issues helps define or predict the resources or uses that could be most affected by the management of NFS lands. These issues are then used as a basis to formulate management alternatives or to measure differences between alternatives.

Ten public issues were originally identified in 1988 for the Forest Plan Revision. These original issues included scenic quality, recreation, fish habitat, wildlife habitat, subsistence, timber harvest, roads, minerals, roadless areas, and local economy. The 1991 Forest Plan Revision Supplemental Draft EIS (SDEIS) added an additional concern: identifying and considering rivers for recommendation as Wild, Scenic, and Recreational rivers.

After the release of the 1991 SDEIS, considerable new information pertaining to the Tongass Forest Plan Revision became available. Out of this information emerged five additional issues, determined by the Regional Forester as needing more study and evaluation before a final revised Forest Plan could be adopted. Some of these issues were aspects or extensions of the ten public issues previously considered; others were new issues or had not been considered as issues in themselves. The five issues included wildlife viability, fish habitat, karst and caves, alternatives to clearcutting, and socioeconomic considerations. These issues were assessed in the 1996 Revised SDEIS and the 1997 Tongass Forest Plan Revision Final EIS.

The 2003 Supplemental EIS (SEIS) reviewed and evaluated roadless areas and analyzed alternative groupings of roadless areas for wilderness recommendations. Two broad issue categories, referred to as key issues, were identified as the major issues driving the SEIS alternatives analysis: 1) the long-term protection of roadless areas and associated values and 2) the social and economic well-being of the communities of Southeast Alaska.

Public Input

The scope of this EIS was initially determined by the Court in its 2005 ruling, and by the 5-Year Review of the Forest Plan. Additional information was considered to help clearly define the issues and for use in the development and analysis of alternatives. For the Final

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EIS, comments and information from a wide variety of public inputs that were related to amending the Forest Plan were considered. This information included the following:

- Public comments generated during the 1997 Tongass Forest Plan Revision process;
- Tongass Forest Plan Revision appeals;
- Public input specific to the Tongass National Forest on the Forest Service's 2001 National Roadless Area Conservation Rule;
- Public comments generated relative to the 2003 SEIS;
- Public input expressed during project-level National Environmental Policy Act (NEPA) analyses over approximately the past 10 years; and
- Public input received in response to the Notice of Intent and the Web site for this EIS.

This record of public input on the management of the Tongass covers a period of more than 12 years. Of special note are the extensive public meetings held in Southeast Alaska for the 1997 Forest Plan Revision, the 2001 National Roadless Area Conservation Rule, and the 2003 SEIS.

In addition to the above, public involvement has occurred during the development of this EIS. Public involvement activities have included the following:

- The Notice of Intent was published in the Federal Register in March 2006.
- A Forest Plan Adjustment Web site was developed in January 2006 and has been maintained and continually updated to inform and engage the public since then. Several hundred comments and questions were received through the Web site or via emails associated with the Web site during the first several months of its operation.
- A Weblog regarding the Forest Plan adjustment effort was established in July 2006 and was maintained as another method of public communication.
- In response to the three above items, a number of letters were received containing comments regarding the issues and alternatives.
- Government-to-government consultation was conducted with federally recognized tribes.

- A number of group-specific meetings were conducted with various organizations (including Alaska Native groups).
- A variety of news releases were issued relative to the Forest Plan adjustment process.
- A series of ongoing meetings by a group known as the Tongass Futures Roundtable (hosted by the National Forest Foundation and The Nature Conservancy) resulted in considerable discussion of Tongass management issues among a broad spectrum of individuals and groups interested in the future of Southeast Alaska.
- Input received prior to issuance of the Draft EIS was reviewed and synthesized and a summary of this synthesis is presented as Appendix A (Issue Identification) to the Final EIS.
- A Draft EIS and Proposed Forest Plan were released on January 12, 2007. This began a 90-day comment period, which was later extended to 108 days. The comment period closed on April 30, 2007.
- During the comment period, open houses and public hearings were held in 24 Alaska communities. In addition to comments on the Draft EIS, the hearings provided opportunities to hear concerns related to subsistence and Alaska Native issues.
- On March 22, 2007, an open house and public hearing was held on the internet to solicit public comment in an open forum from individuals living anywhere in the world.

More than 84,000 comment documents were received, including individual letters, form letters, emails, hearing testimony, and comments submitted directly via the Forest Plan Adjustment Web site. Slightly more than 2,000 of these were classified as individual comment documents and the others were classified as form letters and emails. The individual comment documents were subdivided into approximately 5,500 individual comments. Responses were received from all 50 states and 89 foreign countries. A summary of the substantive comments and Forest Service responses to those comments is presented in Appendix H to the Final EIS (Volume II).

Summary

The Three Focus Issues

Key Issues

Any alternative that proposes to change the Forest Plan could affect resources and/or outputs relative to the current Forest Plan. Therefore, Chapter 3 of the EIS shows the effects of the various alternatives on all relevant resources and evaluates their effects relative to all of the issues and concerns previously identified during the 1997 Plan revision process. However, based on the purpose and need of this EIS and public input received during the current EIS process, some issues are more likely to influence the comparison among alternatives and represent the major issues to be evaluated. These issues were grouped into three broad issue categories, referred to as the key issues. These key issues are the major issues driving the alternatives and analyses.

Key Issue 1 – Protection of high value roadless areas from road development and timber harvest activity on the Tongass is of local and national importance, particularly for wildlife and biodiversity, recreation, and tourism.

Many people believe that roadless areas should be allowed to evolve naturally through their own dynamic processes and should be afforded protection to ensure that this will occur. The Tongass includes very large undeveloped land areas, with several portions of the Forest consisting of contiguous roadless areas that exceed 1 million acres and represent large, unfragmented blocks of wildlife habitat. This large scale of roadless lands does not exist anywhere else in the NFS, except on the Chugach National Forest in Southcentral Alaska.

Roadless areas are considered important because of their wildlife habitat and recreation values and their importance for tourism. They are also important because of the passive use values and ecosystem services values they provide. Passive use values represent the value that individuals assign to a resource independent of their use of that resource and typically include existence, option, and bequest values. These values represent the value that individuals obtain from knowing that expansive roadless areas exist, knowing that they

are available to visit in the future should they choose to do so, and knowing that they are available for future generations to inherit. There is interest in preserving large portions of the Tongass because the majority of the Forest is in a natural condition, unlike most other national forests, and the Tongass represents a significant portion of the world's remaining temperate rainforests.

Ecosystem services represent the services provided to society by healthy ecosystems. These services and benefits include what some consider to be long-term life support benefits to society as a whole. Examples of ecosystem services include watershed services, soil stabilization and erosion control, improved air quality, climate regulation, carbon sequestration, and biological diversity.

Indicators: Analysis relative to this issue compares the amount and proportion of land protected in non-development land use designations (LUDs); the amount of inventoried roadless areas that would be protected under each alternative; and the amount of productive old-growth forest that would be protected under each alternative. The values of the lands protected are considered. Passive use or ecosystem services values are discussed qualitatively, with examples provided from other studies.

Key Issue 2 – The Tongass National Forest needs to provide a sufficient timber supply to meet the market demand and help maintain a vibrant economy in Southeast Alaska.

The Tongass Timber Reform Act (TTRA) (Section 101) requires the Forest Service to seek to provide a supply of timber from the Tongass National Forest that meets annual market demand and the market demand for each planning cycle, consistent with providing for the multiple-use and sustained yield of all renewable resources. With the cancellation of long-term contracts and the closure of two Southeast Alaska pulp mills, the timber industry in Southeast Alaska has been in a period of transition. Future or planning cycle demand scenarios, however, cover a wide range and depend on rates of economic growth in key markets, conditions faced by competitors, and the rate of investment and innovation in manufacturing in Alaska.

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Over the past half a century, the timber industry has been a major component of the economy of Southeast Alaska. However, with closure of the two Southeast Alaska pulp mills in the 1990s and growth of the tourism economy, timber has played a lesser role in recent years. Because the economy of Southeast Alaska is based on relatively few industries, maintaining an active timber industry is important for maintaining a well-diversified economy.

Indicators: Analysis relative to this issue compares the likely demand for timber and the amount of harvest made available to meet that demand. It considers the type of wood (sawlogs vs. utility wood) made available and the usefulness of that wood type to the local industry. The analysis also considers the effects on regional and national economies and on local communities.

Key Issue 3 – Protection of wildlife habitat and biodiversity on the Tongass is of local and national significance and is affected by road development and timber harvest activities.

The Tongass National Forest supports a unique and important assemblage of wildlife, including the largest population of brown bears and breeding bald eagles in the world, species of high importance for subsistence (e.g., Sitka black-tailed deer), an extensive array of endemic mammals and other species, and a large number of species that are at least partially dependent on old-growth habitats (e.g., marten and goshawk). Populations of many of these species and the biodiversity of Southeast Alaska are affected by timber harvest and the development of roads.

Although less than 10 percent of the productive old-growth habitats on the Tongass have been converted to young growth, this percentage is much higher for certain types of old growth, such as low-elevation and large-tree old growth. In addition, a high percentage of non-NFS lands have been harvested and the rate of harvest is much higher on these lands. Therefore, the cumulative effects of harvest and road building on wildlife of Southeast Alaska are greater than the effects of harvest and road construction on the Tongass alone.

Indicators: Analysis relative to this issue compares the amount of productive old-growth forest that would be protected under each alternative, as well as the percentages of biogeographic provinces that would be protected in reserves. It also considers the role of the managed lands (development LUDs) in providing wildlife habitat. It rates the alternatives in terms of the expert panel ratings conducted for the 1997 Forest Plan Revision EIS. Habitat changes, as documented by habitat amounts, changes in road densities, and habitat models, are also used as indicators. Cumulative harvest and road development on non-NFS lands is quantified and evaluated in conjunction with harvest and road development on NFS lands.

Alternatives

Each alternative described in Chapter 2 of the Final EIS includes the following components:

- A framework;
- A general description of the desired condition;
- A table with the acreages allocated to each LUD;
- A map (included in the map packet accompanying the EIS hard copy or in the map section of the CD version) showing the distribution of LUDs across the Forest;
- A map showing the distribution of development, natural setting, and wilderness LUD groups;
- A description of proposed changes to the current Forest-wide standards and guidelines and management prescriptions; and
- A quantification of outputs and measures associated with each alternative.

The management prescriptions (i.e., LUD-specific standards and guidelines) for each LUD are included in the 1997 Forest Plan, as amended, for Alternative 5 (No Action) or in the Final Proposed Forest Plan (see below) for the action alternatives. The Forest-wide standards and guidelines that apply to each alternative are also included in these Forest Plans.

Chapter 2 of the Final EIS identifies the goals common to all alternatives. In addition, the TTRA (Section 101) direction for the Tongass to “seek

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to provide a supply of timber which 1) meets the annual market demand for timber from such forest and 2) meets the market demand from such forest for each planning cycle” is a goal for each alternative “to the extent consistent with providing for the multiple use and sustained yield of all renewable forest resources,” as determined by that alternative, and subject to appropriations and applicable law.

Final Proposed Forest Plan

The No-Action Alternative (Alternative 5) represents the 1997 Forest Plan Revision, as amended to date. A number of changes to the Forest Plan text are being proposed under the action alternatives, based on the Forest Plan 5-Year Review and Forest Service staff recommendations. Most changes were incorporated into the Proposed Forest Plan that accompanied the Draft EIS. These changes were modified and updated for the Final EIS and the major changes being proposed are summarized below. The individual alternative descriptions on the following pages only identify items that are not consistent with the Final Proposed Forest Plan, which is defined by the Proposed Forest Plan that accompanied the Draft EIS, as modified in this section. A summary of the main changes that are incorporated into the Final Proposed Forest Plan are provided below.

Management Prescriptions

- Edits and clarifications were made regarding karst management programs, sacred site protection, minerals and geology, off-highway vehicle use, scenery management, and other areas for most LUD prescriptions.
- Substantial edits and clarifications were made to the Wilderness and Wilderness National Monument LUD prescriptions.

Forest-wide Standards and Guidelines

- Clarifications were made to the standards and guidelines regarding steep slopes and soil stability in the *Soils* and *Water* section.
- Clarifications were made to the standards and guidelines on Class III and IV streams and edits were made to the other standards and guidelines in the *Fish* section.
- The detailed stream process group-specific Riparian standards and guidelines are presented in an appendix in the Final Proposed

Forest Plan, instead of in the main body of the standards and guidelines, which is the way they were presented in the Proposed Forest Plan that accompanied the Draft EIS.

- A new section was added to Chapter 4 on Invasive Species.
- A new section was added to Chapter 4 on Plants.
- The Threatened, Endangered, and Sensitive Species standards and guidelines are incorporated into subsections under Fish, Wildlife, and Plants (as appropriate) in the Final Proposed Plan, instead of in a separate section as in the Proposed Plan that accompanied the Draft EIS.
- The goshawk foraging habitat and the marten habitat standards and guidelines in the *Wildlife* section were deleted and replaced with a Forest-wide legacy standard and guideline in the Proposed Forest Plan that accompanied the Draft EIS. In addition, the legacy standard and guideline for the Final Proposed Forest Plan was revised further. The revised standard and guideline requires legacy forest structure to be left only in harvest units greater than 20 acres and only in higher risk VCUs, as previously defined (49 VCUs).
- The goshawk nesting habitat standard and guideline in the *Wildlife* section was revised in the Proposed Forest Plan that accompanied the Draft EIS. In addition, the goshawk nesting habitat standard and guideline for the Final Proposed Forest Plan was revised further. The revised standard and guideline permits nesting habitat protection measures to be removed if, after 2 consecutive years of monitoring, evidence of confirmed or probable nesting is no longer observed.
- The requirement to conduct inventories to determine the presence of nesting goshawks for proposed projects that affect goshawk habitat is included in the Final Proposed Forest Plan (this was inadvertently removed from the Proposed Forest Plan that accompanied the Draft EIS).
- New standards and guidelines on sacred site protection were added in the *Heritage Resources and Sacred Sites* section.
- Extensive edits were made to the Karst and Cave Resources standards and guidelines and the Karst and Cave Resources appendix.
- Substantial edits were made to the Minerals and Geology standards and guidelines.

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- Substantial edits were made to the Recreation and Tourism standards and guidelines. The detailed Recreation Opportunity Spectrum-specific standards and guidelines are presented in an appendix in the Final Proposed Forest Plan, instead of in the main body of the standards and guidelines, which is the way they were presented in the Proposed Forest Plan that accompanied the Draft EIS.
- The Scenery standards and guidelines were converted from the Visual Management System to the Scenery Management System.
- Edits were made to off-highway vehicle standards and guidelines in the *Lands* section.
- Edits were made to the road storage and decommissioning standards and guidelines in the *Transportation and Utilities* section.

In addition, there are a number of changes to other Forest Plan sections. These include changes to the Goals and Objectives (Chapter 2 of the Plan) and Monitoring and Evaluation (Chapter 6 of the Plan) chapters, as well as a number of the Forest Plan appendices, including Appendix B (Information Needs), Appendix F (Visual Priority Routes and Use Areas), Appendix I (Karst and Caves), Appendix K (Old-Growth Habitat Reserve Criteria), and Appendix L (Resource Schedules). The Monitoring and Evaluation chapter in the Final Proposed Plan was revised to be more focused, relative to the version in the Proposed Forest Plan that accompanied the Draft EIS. In addition, it is anticipated that the current list of Management Indicator Species (MIS) may be revised in the future, but a change in MIS is not part of the Final Proposed Plan.

Proposed LUD Changes Common to Most Alternatives

The LUD allocations for each alternative are described in the following alternative-specific descriptions. The alternatives do not vary in terms of the acreage allocated to congressionally designated areas (i.e., Wilderness, National Monument, and LUD II), nor do they vary in terms of allocations to Research Natural Areas, Enacted Municipal Watersheds, or Wild, Scenic, or Recreational River LUDs. However, they do vary with respect to the other non-development LUDs and all of the development LUDs. The LUDs for each alternative are displayed on alternative LUD maps that accompany the EIS.

The proposed expansion of the Special Interest Area LUD and the proposed replacement of the Young Bay Experimental Forest with the Cowee-Davies Experimental Forest are common to all alternatives except Alternative 5, which would follow the 1997 Forest Plan (as amended) for these two LUDs. In addition, the proposed expansion and refinement of the Old-Growth Habitat LUD is common under Alternatives 1, 2, 3, and 6, and is as a result of an interagency process completed in 2007. Under this process, the Tongass worked with the Alaska Department of Fish and Game and the U.S. Fish and Wildlife Service to conduct a comprehensive review and mapping effort for all small old-growth reserves (OGRs). The final proposal is included in Alternatives 1, 2, 3, and 6 of the Final EIS. Alternative 5 retains the 1997 Plan (as amended) reserve network and the reserves proposed under Alternatives 4 and 7 are not affected by this proposal. Further information on the refinement of small OGRs is included in Appendix D (Volume II).

Alternative 1

Under this alternative, forest management would provide a mix of national forest uses and activities, but would emphasize maintaining inventoried roadless areas, associated fish and wildlife values, and unroaded recreation, tourism, and subsistence opportunities, relative to the current Forest Plan. Timber would be managed within the roaded land base and inventoried roadless areas would remain in a natural condition. In addition, a number of higher value roaded areas, including all of Kuiu, Baranof, and Kruzof Islands, many portions of Chichagof Island, all mainland areas, and other areas, would be excluded from commercial timber management. A total of 840,000 acres of the Tongass would be in development LUDs and 15.9 million acres would be in non-development LUDs. The majority of the lands changed to non-development LUDs from development LUDs (in the 1997 Plan) would be designated Semi-Remote Recreation. Specific LUD changes under this alternative would include the addition and modification of a number of Geologic Special Interest Areas, recommendations to change the Young Bay Experimental Forest to Semi-Remote Recreation and the Cowee-Davies Creek watersheds from Scenic Viewshed to Experimental Forest, and converting a large

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area of Remote Recreation LUD north of Juneau to Semi-Remote Recreation. It also would include extensive refinements to the boundaries of the small Old-Growth Reserves, based on a recently completed interagency evaluation.

Alternative 1 would have 312,000 acres suitable for timber production and would have an Allowable Sale Quantity or ASQ (the maximum amount of timber that can be sold from the suitable land base on a sustained basis, expressed as an annual average) of 49 million board feet (MMBF). This alternative would approximately correspond with Scenario 1 (limited lumber production) of the Brackley et al. (2006a) timber demand study. It is similar to Alternative 8 of the 2003 SEIS in terms of the areas allocated to non-development LUDs.

Alternative 2

Under this alternative, forest management would provide a mix of national forest uses and activities, but would give additional emphasis to roadless areas, associated fish and wildlife values, and unroaded recreation, tourism, and subsistence opportunities, relative to the current Forest Plan. Timber would be managed within the roaded land base as well as within roadless areas with lower wilderness attribute ratings (primarily those adjacent to developed areas). The vast majority of current roadless areas would remain in a natural condition. A total of 1.9 million acres of the Tongass would be in development LUDs and 14.8 million acres would be in non-development LUDs. The majority of the lands changed to non-development LUDs from development LUDs (in the current Plan) would be designated Semi-Remote Recreation. All areas identified as development LUDs in Alternative 1 would also be development LUDs in this alternative, in addition to other areas. Specific LUD changes under this alternative would include the addition and modification of a number of Geologic Special Interest Areas, recommendations to change the Young Bay Experimental Forest to Semi-Remote Recreation and the Cowee-Davies Creek watersheds from Scenic Viewshed to Experimental Forest, and converting a large area of Remote Recreation LUD north of Juneau to Semi-Remote Recreation. It also would include extensive refinements to the

boundaries of the small Old-Growth Reserves, based on a recently completed interagency evaluation.

Alternative 2 would have 545,000 acres suitable for timber production and would have an ASQ of 151 MMBF. This alternative would approximately correspond with Scenario 2 (expanded lumber production) of the Brackley et al. (2006a) timber demand study.

Alternative 3

Under Alternative 3, forest management would provide a mix of national forest uses and activities, but would give some additional emphasis to roadless areas, associated fish and wildlife values, and unroaded recreation, tourism, and subsistence opportunities, relative to the current Forest Plan. Timber would be managed within the roaded land base as well as within additional roadless areas; but these additional areas would not include the high value roadless areas identified in the 1999 Record of Decision (USDA Forest Service 1999) as the 18 Areas of Special Interest or the 23 areas proposed for wilderness in H.R. 987. The vast majority of current roadless areas would remain in a natural condition. A total of 2.8 million acres of the Tongass would be in development LUDs and 14.0 million acres would be in non-development LUDs. The majority of the lands changed to non-development LUDs from development LUDs (in the current Plan) would be designated Semi-Remote Recreation. All areas identified as development LUDs in Alternative 2 would also be development LUDs in this alternative, in addition to other areas. Specific LUD changes under this alternative would include the addition and modification of a number of Geologic Special Interest Areas, recommendations to change the Young Bay Experimental Forest to Semi-Remote Recreation and the Cowee-Davies Creek watersheds from Scenic Viewshed to Experimental Forest, and converting a large area of Remote Recreation LUD north of Juneau to Semi-Remote Recreation. It also would include extensive refinements to the boundaries of the small Old-Growth Reserves, based on a recently completed interagency evaluation.

Alternative 3 would have an estimated suitable forest land base of 661,000 acres and an ASQ of 204 MMBF. This alternative would

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approximately correspond with Scenario 3 (medium integrated industry) of the Brackley et al. (2006a) timber demand study. It is similar to Alternative 5 of the 2003 SEIS in terms of the areas allocated to non-development LUDs.

Alternative 4

Under Alternative 4, forest management would provide a mix of national forest uses and activities, but would give additional emphasis to timber management and associated economic stability of Southeast Alaska communities, relative to the current Forest Plan. Timber would be managed within an area expanded beyond the current Forest Plan. The vast majority of current roadless areas would remain in a natural condition; however, the majority of roadless areas that contain substantial productive old growth (POG), outside of wilderness, could be developed. A total of 4.7 million acres of the Tongass would be in development LUDs and 12.0 million acres would be in non-development LUDs. Almost all areas identified as development LUDs in Alternative 5 would also be development LUDs in this alternative, in addition to other areas. Specific LUD changes under this alternative would include the addition and modification of a number of Geologic Special Interest Areas, recommendations to change the Young Bay Experimental Forest to Semi-remote Recreation and the Cowee-Davies Creek watersheds from Scenic Viewshed to Experimental Forest, and converting a large area of Remote Recreation LUD north of Juneau to Semi-Remote Recreation.

Alternative 4 would have an estimated suitable forest land base of 999,000 acres and an ASQ of 360 MMBF by the second decade. This alternative would approximately correspond with Scenario 4 (high integrated industry) of the Brackley et al. (2006a) timber demand study. It is similar to Alternative 6 of the 1997 Final EIS.

Alternative 5

This is the No-Action alternative. It represents a continuation of the current Forest Plan and would result in a mix of national forest uses and activities. Timber would be managed in an area more extensive than under Alternative 3, but less extensive than under Alternative 4. The vast majority of current roadless areas would remain in a

natural condition; however, the majority of roadless areas that contain substantial POG, outside of wilderness, could be partially developed. A total of 3.6 million acres of the Tongass would be in development LUDs and 13.2 million acres would be in non-development LUDs. This alternative is the same as the current Forest Plan (Alternative 11 from the 1997 Final EIS plus amendments).

Alternative 5 would have an estimated suitable forest land base of 757,000 acres and an ASQ of 267 MMBF. This alternative is the same as the 1997 Forest Plan, as amended (Alternative 11 from the 1997 Final EIS plus amendments).

Alternative 6

This is the Proposed Action alternative. It is very similar to the Alternative 5 (No Action) alternative in terms of LUD allocations; however, it includes extensive refinements to the boundaries of the small Old-Growth Reserves (based on a recently completed interagency evaluation), new Geologic Special Interest Areas, a new Experimental Forest, the conversion of a large area of Remote Recreation LUD north of Juneau to Semi-Remote Recreation, and other minor LUD refinements. Timber would be managed in an area more extensive than under Alternative 3, but less extensive than under Alternative 4. The vast majority of current roadless areas would remain in a natural condition; however, the majority of roadless areas that contain substantial POG, outside of wilderness, could be partially developed. A total of 3.5 million acres of the Tongass would be in development LUDs and 13.3 million acres would be in non-development LUDs. Specific LUD changes under this alternative would include the addition and modification of a number of Geologic Special Interest Areas, recommendations to change the Young Bay Experimental Forest to Semi-remote Recreation and the Cowee-Davies Creek watersheds from Scenic Viewshed to Experimental Forest, and converting a large area of Remote Recreation LUD north of Juneau to Semi-Remote Recreation. It also would include extensive refinements to the boundaries of the small Old-Growth Reserves, based on a recently completed interagency evaluation.

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Alternative 6 would have an estimated 775,000 acres of lands suitable for timber production and an ASQ of 267 MMBF. This alternative is similar to Alternative 11 of the 1997 Final EIS.

Alternative 7

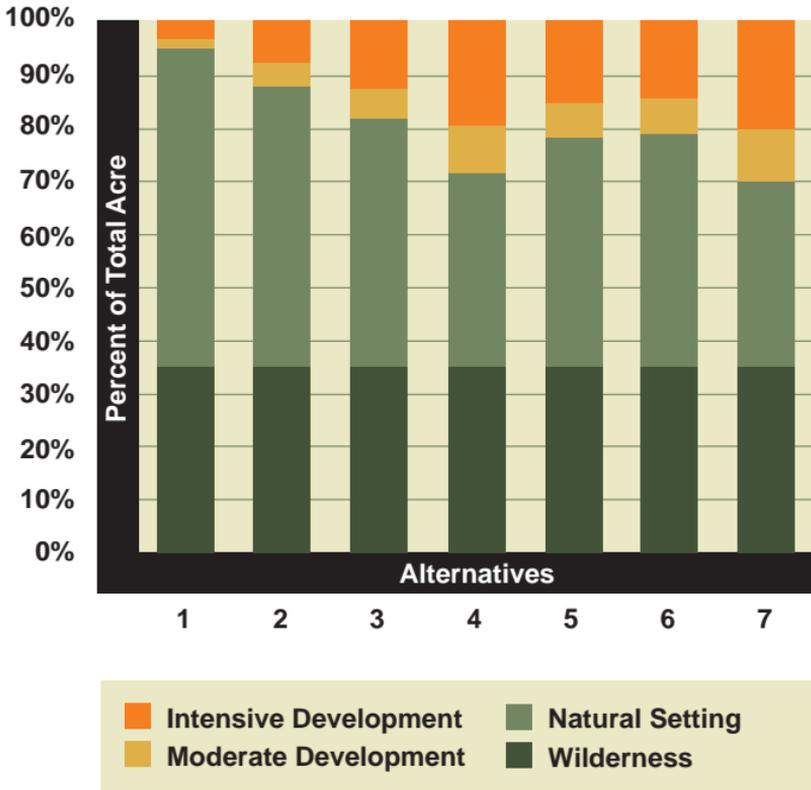
Under Alternative 7, forest management would provide a mix of national forest uses and activities, but would give much additional emphasis to timber management, relative to the current Forest Plan. Timber would be managed on a considerably expanded land base compared with the current Forest Plan. The vast majority of current roadless areas would remain in a natural condition; however, the majority of roadless areas that contain substantial POG, outside of wilderness, could be developed. A total of 5.0 million acres of the Tongass would be in development LUDs and 11.7 million acres would be in non-development LUDs. Almost all areas identified as development LUDs in Alternative 5 would also be development LUDs in this alternative, in addition to other areas. Specific LUD changes under this alternative would include the addition and modification of a number of Geologic Special Interest Areas and recommendations to change the Young Bay Experimental Forest to Semi-Remote Recreation and the Cowee-Davies Creek watersheds from Scenic Viewshed to Experimental Forest.

Alternative 7 would have an estimated suitable forest land base of 1,174,000 acres and an ASQ of 421 MMBF. This alternative is similar to Alternative 2 of the 1997 Final EIS.

Comparison of the Alternatives

This section briefly compares the environmental consequences of the seven alternatives with respect to the key issues described above. Prior to presenting the effects comparison, Figure 1 is displayed to help the reader compare the differences among the alternatives. It summarizes the LUD allocations of the alternatives using LUD Group combinations. The four LUD Groups combine the individual LUDs in terms of similarities in management.

Figure 1. Land Use Designation Group Comparison



Key Issue 1 – Protection of high value roadless areas from road development and timber harvest activity on the Tongass is of local and national importance, particularly for wildlife and biodiversity, recreation, and tourism.

The Tongass includes very large undeveloped land areas, with several portions of the Forest consisting of contiguous roadless areas that exceed 1 million acres and represent large, unfragmented blocks of wildlife habitat. This scale of roadless lands is not available elsewhere in the NFS, except on the Chugach National Forest. Roadless areas are considered important because of their wildlife habitat and recreation values and their importance for tourism. They are also important because of the passive use values and ecosystem services values they provide.

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Direct Effects on Roadless Areas

The Tongass National Forest is about 91 percent roadless, including wilderness. Only small areas where communities are located, or where road construction and timber harvest have occurred, are “developed” to any noticeable degree. Developed areas and small unroaded areas (not included in inventoried roadless areas) cover about 1.51 million acres, or about 9 percent of the Tongass; wilderness covers about 5.75 million acres, or about 34 percent; and inventoried roadless areas (outside of wilderness) cover about 9.51 million acres, or about 57 percent. The maximum long-term reduction in roadless plus wilderness acreage on the Tongass and for all of Southeast Alaska (all Alaska lands southeast of Yakutat Bay) under each alternative are discussed in the following paragraphs and the alternatives are compared in Figure 2.

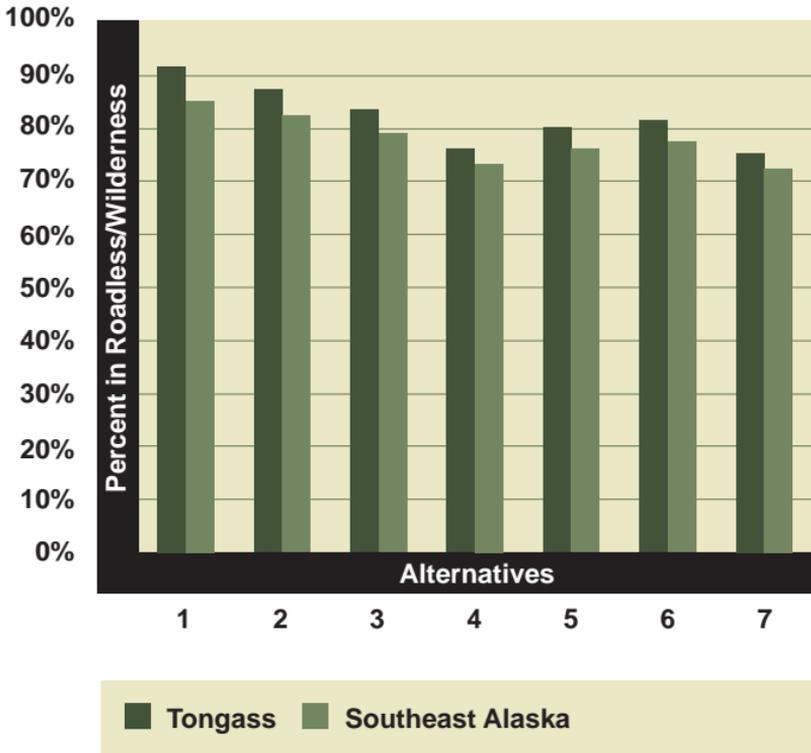
Alternative 1 is designed to avoid inventoried roadless areas and, because of this, after 100+ years of maximum implementation, 91 percent of the Tongass and 85 percent of Southeast Alaska would still be in roadless areas or wilderness.

Alternatives 2 and 3 would progressively enter more roadless areas with 0.8 million acres and 1.7 million acres of development LUDs in roadless areas, respectively. Alternative 2 would ultimately result in 87 percent of the Tongass and 82 percent of Southeast Alaska in roadless or wilderness and Alternative 3 would result in 83 percent and 79 percent.

Next in progression into roadless areas, Alternatives 5 and 6 would include 2.4 and 2.3 million acres of development LUDs in roadless, respectively. Alternative 5 would ultimately result in 80 percent of the Tongass and 76 percent of Southeast Alaska being in roadless or wilderness. These percentages would be 81 and 77 for Alternative 6.

Finally, Alternatives 4 and 7 both enter roadless areas to a higher degree. Alternative 4 would have 3.4 million acres of development LUDs in roadless and Alternative 7 would have 3.7 million. After 100 years or more of implementation, Alternative 4 would result in 76 percent of the Tongass and 73 percent of Southeast Alaska, and Alternative 7 would result in 75 percent of the Tongass and 72 percent of Southeast Alaska continuing as roadless or in wilderness.

Figure 2. Percent of the Tongass and Southeast Alaska in Roadless/Wilderness after 100+ Years



Distribution of Roadless Areas

Significant acreages of roadless areas would remain in all biogeographic provinces under all alternatives; however, some would maintain a higher percentage than others. Under Alternatives 1 and 2, none of the 21 biogeographic provinces within the Tongass boundary would have less than 50 percent of their areas in non-development LUDs. Alternative 1 would have 17 of the 21 provinces containing 90 percent or more acreage in non-development LUDs and Alternative 2 would have 13 provinces.

Alternative 3 would have 2 biogeographic provinces and Alternatives 5 and 6 would have 3 provinces with less than 50 percent in non-

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development LUDs. Alternative 3 would have 9 of the 21 provinces containing 90 percent or more of their acreage in non-development LUDs and Alternatives 5 and 6 would have 6 provinces.

Alternatives 4 and 7 would each result in 5 biogeographic provinces with less than 50 percent in non-development LUDs. These alternatives would have 6 of the 21 provinces containing 90 percent or more of their acreage in non-development LUDs.

Key Issue 2 – The Tongass National Forest needs to provide a sufficient timber supply to meet the market demand and help maintain a vibrant economy in Southeast Alaska.

Timber from the Tongass National Forest is the main source of raw materials for the region's wood products industry.

Demand may be thought of as the different amounts of a product that buyers are willing to purchase at different prices. Demand is not a single number, but instead a series of price-quantity relationships. The same is true of supply. It is the combination of supply and demand that determines the quantity and price of goods produced and consumed.

Accurately projecting future demand is difficult. Market demand for Southeast Alaska timber and wood products depends upon numerous, difficult to predict, factors, including changes in technology, growth and exchange rates in key markets, changes in consumer tastes and preferences, as well as developments in other producing regions whose products compete with those of Alaska.

The average timber sale on the Tongass includes spruce, hemlock, and cedar and results in a variety of log grades and species. In most forested conditions, the tree species, tree sizes, and tree quality are all mixed together. When a timber sale is purchased, the buyer is usually required to purchase all of the volume in that sale regardless of the composition. At present, none of the purchasers is set up to efficiently process all grades and species from such sales, nor is the local industry set up to process all of the components of the timber sales. In the absence of a facility to use utility and lower

grade logs, a timber sale must be sustained solely on the profits made from the higher grade sawlogs, even though the operator must harvest and pay for the lower grade logs.

It should be noted that the Alaska Regional Forester (Region 10) signed a new policy in March 2007 that approved limited interstate shipments of unprocessed Sitka spruce and western hemlock. This policy is expected to increase the utilization of timber harvested on the Tongass and improve overall timber sale economics by providing a market for smaller diameter and low-grade material that cannot be processed profitably by sawmills in Southeast Alaska.

The wood products analysis prepared for this EIS is divided into long- and short-term effects. The long-term effects analysis evaluates the alternatives with respect to a) the projections developed by the Pacific Northwest Research Station of the Forest Service, and b) current production levels, installed capacity, and the minimum volumes required by various processing facilities. These benchmarks are used to evaluate the long-term effects of the alternatives. Long-term effects are assessed based on the ASQ projected under each alternative.

The short-term effects analysis discusses three key components of the “timber pipeline:” volume under contract, NEPA-cleared volume (i.e., sales that have approved NEPA documents but have not yet been sold), and timber volume in preparation (i.e., proposed sales that are currently being evaluated under the NEPA process).

Long-Term Effects

Pacific Northwest Research Station Projections. The Forest Service commissioned the Pacific Northwest Research Station to develop a series of demand projections. This resulted in a “derived demand” analysis that projected various demand figures for four scenarios based upon differing assumptions about future markets and future processing facilities in Southeast Alaska (Brackley et al. 2006a). These future visions of the Southeast Alaska wood products industry are hypothetical and are used in this EIS to illustrate the type of developments that might take place in cases where different volumes are made available for harvest. The transition from one

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scenario to the next involves new private investment and market development. A key factor in attracting new investment is whether or not a supply of timber “shelf volume” is available for purchase.

Alternatives 1 through 4 were designed to correspond with timber demand Scenarios 1 through 4, respectively, while also responding to other concerns. The discrepancy between the second decade ASQs for Alternatives 1 and 2 and projected demand for 2022 under Scenarios 1 and 2 reflects these other concerns. These scenarios are briefly summarized in the following paragraphs, along with the ability of the alternatives to meet each scenario in 2022.

Scenario 1 – Limited Lumber Production. This scenario approximates the status of the timber industry in Southeast Alaska at the time that the Brackley et al. study was completed. Total derived demand is projected to be 68 MMBF in 2022 under this scenario. It is likely that this volume would be primarily logs from more economical (non-interchangeable component [NIC I]) lands.

Alternative 1, with a projected total output of 49 MMBF, could not provide sufficient volume to meet this scenario, as currently modeled.

Alternatives 2, 3, 4, 5, 6, and 7 could all provide sufficient volume to meet this scenario in 2022.

Scenario 2 – Expanded Lumber Production. This scenario also projects that only higher value logs are processed, with limited new investments in the existing mills in Southeast Alaska. Total derived demand is projected to be 187 MMBF in 2022 under this scenario. As in Scenario 1, it is likely that this volume would be primarily higher value logs from the more economical (NIC I) lands.

Alternatives 1 and 2, with projected total outputs of 49 MMBF and 151 MMBF, could not provide sufficient volume to meet this scenario.

Alternatives 3, 4, 5, 6, and 7 could all provide sufficient volume to meet this scenario.

Scenario 3 – Medium Integrated Industry. This scenario builds on Scenario 2 and would establish processing capacity to fully utilize sawlogs and low grade and utility logs from federal and state timber sales. Under this scenario the current sawlog milling capacity would

operate efficiently and new processing capacity would be developed to utilize the material that has formerly been left in the woods or exported. Total derived demand is projected to be 204 MMBF in 2022 under this scenario.

Alternatives 1 and 2, with projected total outputs of 49 MMBF and 151 MMBF, respectively, could not provide sufficient volume to meet this scenario.

Alternatives 3, 4, 5, 6, and 7 could provide sufficient volume to meet this scenario.

Scenario 4 – High Integrated Industry. This scenario builds on Scenario 3 and provides an estimate of the upper market level for the foreseeable future. In order for this situation to be realized, new investments in processing capacity would need to be made and additional market shares established. Total derived demand is projected to be 342 MMBF in 2022 under this scenario.

Alternatives 1, 2, 3, 5 and 6, with projected total outputs of 49 MMBF, 151 MMBF, 205 MMBF, 267 MMBF, and 267 MMBF, respectively, could not provide sufficient volume to meet this scenario.

Alternatives 4 and 7 could provide sufficient volume to meet this scenario.

Current Production Levels, Installed Capacity and Minimum Volumes Required by Various Processing Facilities. The existing mills in Southeast Alaska had an estimated active installed processing capacity of 261 MMBF in 2006 and a total processing capacity of 361 MMBF. The estimated NIC I components of the harvest volumes projected under each alternative range from 9 percent of the active installed processing capacity under Alternative 1 to 71 percent under Alternative 7. The NIC I volume projected under Alternative 5 (No Action) represents about 46 percent of the existing active processing capacity. The projected NIC I components represent smaller shares of the total installed capacity, ranging from 7 percent under Alternative 1 to 51 percent under Alternative 7.

Two of the future demand scenarios evaluated by Brackley et al. (2006a) involve an integrated industry. These scenarios are based on the assumption that as stable volumes get higher, the industry will develop in an integrated fashion, with operations and production

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that utilize materials that are inefficient or excess to one another's production. The potential components of an integrated industry could include sawmills, a veneer plant, and a medium density fiberboard (MDF) or bioenergy facility, among others. The different facilities would process different types of log. Sawmills would generally process higher quality material (high grade sawlogs), with the other types of facility processing lower quality material (low grade sawlogs and utility logs).

Based on the projected harvest volumes, only Alternatives 4 and 7 would provide sufficient volume to support an integrated industry that consisted of the existing sawmills, a veneer plant, and an MDF or Bioenergy facility. Under Alternative 5 (No Action), there would be sufficient volume to support the existing sawmills. There would also be sufficient volume to support one or more veneer plants or an MDF or other chip-related operation, but not both.

A number of timber projections were reviewed as part of this analysis. Based on this review, the Forest Service identified a potential upper planning cycle demand of 360 MMBF from all sources. Only Alternative 7 includes sufficient volume to meet this level of demand only from NFS acres.

Direct Employment and Income. Direct sawmill and logging employment estimates are presented in job-years, which represent the equivalent of one year's employment. This potential employment would not necessarily occur all in one year and estimated job totals do not directly translate into estimated numbers of affected workers. These estimates assume a linear relationship between harvest and employment levels, with a 1 percent change in harvest resulting in a 1 percent change in employment. In reality, changes in volume will have a lagged response in employment, but the assumed linear relationship is an approximation that can be used to compare alternatives.

Based on projected harvest volumes, average annual direct wood products employment would range from 494 annualized jobs under Alternative 1 to 1,922 jobs under Alternative 7. Approximately 274 of these annualized jobs would be associated with non-Tongass harvest under each alternative. Viewed in relation to Alternative 5

(No Action), projected direct employment would range from a 63 percent decrease under Alternative 1 to an increase of approximately 43 percent under Alternative 7.

Projected annual direct income, which is calculated based on the projected number of jobs, would range from \$19.5 million under Alternative 1 to \$72.5 million under Alternative 7. These totals also include income that would be generated by non-Tongass harvest.

Short-Term Effects

The following discussion provides an indication of potential short-term effects. Actual effects would depend on the volumes in each pool when the decision is implemented. In the case of the volume under contract, potential impacts would also depend on whether potentially affected sales were cancelled or exempted as part of the decision.

Volume under Contract. Alternative 1 would maintain the majority of the Inventoried Roadless Areas on the Tongass in a natural condition and would not allow timber harvest in those areas. Alternative 1 would affect 52 percent (54 MMBF) of the volume under contract as of August 2006 (104 MMBF). The volume currently under contract would not be affected by any of the other alternatives.

NEPA-Cleared Volume. Alternative 1 would affect 56 percent (255 MMBF) of the current NEPA-cleared volume as of August 2006 (454 MMBF). It should be noted that not all this volume is considered economic under current market conditions. Alternative 2 would affect 44 percent or 198 MMBF of this volume, which represents the volume that has passed through the NEPA process and is scheduled to be available for sale in the near future. None of the other alternatives would affect this volume.

Timber Volume in Preparation. Alternative 1 would affect 56 percent (298 MMBF) of the timber volume in preparation as of September 2006 (536 MMBF). Alternatives 2 and 3 would each affect approximately 7 percent or 40 MMBF of this volume and Alternatives 4, 5, 6, and 7 would not affect this volume.

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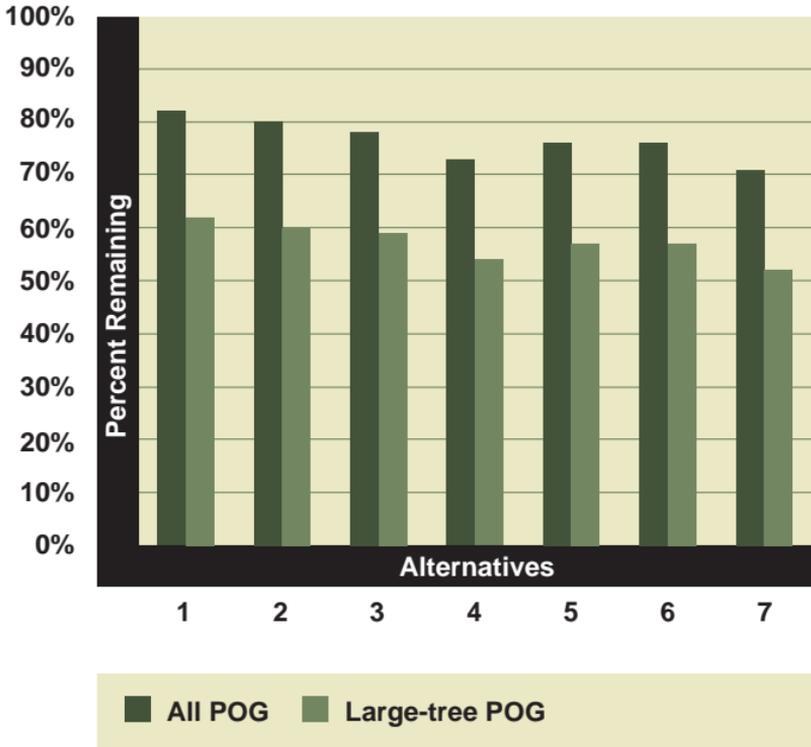
Key Issue 3 – Protection of wildlife habitat and biodiversity on the Tongass is of local and national significance and is affected by road development and timber harvest activities.

The Tongass National Forest supports a unique and important assemblage of wildlife including the largest population of brown bears and breeding bald eagles in the world, species of high importance for subsistence (e.g., Sitka black-tailed deer), an extensive array of endemic mammals and other species, and a large number of species that are at least partially dependent on old-growth habitats (e.g., marten and goshawk). Populations of many of these species and the biodiversity of Southeast Alaska are affected by timber harvest and the development of roads.

Old-Growth Harvest

The amount of productive old growth (POG) harvest is a key indicator of effects on many species, including goshawks, marten, endemic mammals, and deer. The range of old-growth harvest is wide among the alternatives. Alternative 1 has the lowest maximum harvest of POG at 86,000 acres, while Alternative 7 has the highest maximum at 807,000 acres. After 100 years or so, a minimum of 90 percent of the original POG on NFS lands would remain under Alternative 1 and 77 percent would remain under Alternative 7. Percentages for all of Southeast Alaska, including non-NFS lands, would be 82 percent for Alternative 1 and 71 percent for Alternative 7. The other five alternatives would rank between Alternatives 1 and 7; their order from lowest to highest harvest would have Alternative 2 at the low end progressing to Alternative 3, then 6, then 5, and then 4. For large-tree POG after 100+ years, a minimum of 78 percent of the original amount would remain on the Tongass under Alternative 1 and 64 percent would remain under Alternative 7. Percentages for all of Southeast Alaska, including non-NFS lands, would be 62 percent for Alternative 1 and 52 percent for Alternative 7. Figure 3 compares the percentages for all POG and large-tree POG for all of Southeast Alaska, by alternative.

Figure 3. Minimum Percent of Original POG and Original Large-tree POG Remaining in 100+ Years in All of Southeast Alaska



Road Development

The Tongass currently has 4,941 miles of existing roads (including closed and non-system roads). This total includes 2,619 miles of open roads, plus 913 miles of closed roads that are in storage and 1,409 miles of non-system roads. Road construction can negatively affect wildlife by eliminating habitats and by permitting increased access, which can result in larger harvests and more human-large predator interactions.

Under Alternative 1, an estimated maximum of 774 new road miles would be developed over 100 years. For Alternatives 2 and 3 the estimated maximum new road construction would be 2,079 and 2,799 miles, respectively. The majority of these road miles would be closed

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after harvest activities are completed, and reopened at the next entry. The maximum road miles to be constructed under Alternatives 5 and 6 would be 3,874 and 3,744, respectively. Alternative 4 would construct a maximum of 4,890 miles of new road and Alternative 7 would construct a maximum of 5,825 miles of new road.

A useful indicator of road effects on wildlife is the road density within Wildlife Analysis Areas (WAA). On Tongass NFS lands, 8 percent of the WAAs that make up the Tongass have a road density greater than 1.0 mile per square mile under existing conditions. Road density would increase in many areas after 100+ years of implementation of the alternatives. Under Alternative 1, the density would increase so that a maximum of 11 percent of the WAAs would have a density greater than 1.0 mile per square mile. Alternatives 2, 3, and 6 would have a maximum of 16 to 18 percent, Alternative 5 would have a maximum of 19 percent, and Alternatives 4 and 7 would have 23 to 25 percent. These percentages would increase further when cumulative road development, including future road development on non-NFS lands, is considered. The percentage of WAAs with road density on all lands (including non-NFS lands) greater than 1.0 mile per square mile would be 20 percent for Alternative 1, 23 to 26 percent for Alternatives 2, 3, 5, and 6, and 28 to 31 percent for Alternatives 4 and 7.

Representation of Old-Growth Forests

The percentage of POG remaining in each biogeographic province is an indication of the degree to which all potentially valuable ecological communities remain fully represented.

After 100 years of Alternative 1 implementation, 19 of the 23 biogeographic provinces covering Southeast Alaska would have 75 percent or more of their POG remaining and none would have less than 50 percent (minimum value = 55 percent). For large-tree POG, 16 out of 23 provinces would have at least 50 percent of the original amount remaining (minimum value = 32%).

At the other end of the spectrum, after 100 years of implementation of Alternatives 4 or 7, 11 to 12 of the 23 biogeographic provinces would have 75 percent or more of their POG remaining and one would have less than 50 percent (minimum value = 44 percent for Alternative 7). Considering large-tree POG, 13 to 14 of the provinces

would have at least 50 percent of the original amount remaining (minimum value = 29 percent under Alternative 7).

The other four alternatives (Alternatives 2, 3, 5, and 6) would all have values within these ranges; they would have 13 to 18 of the 23 biogeographic provinces covering Southeast Alaska with 75 percent or more of their POG remaining. None of these alternatives would have any biogeographic provinces with less than 50 percent of their POG. Each of them would also have 16 out of 23 provinces with at least 50 percent of the original large-tree POG remaining (minimum value = 31%).

Conservation Strategy and Landscape Connectivity

An adequate amount and distribution of high quality old-growth blocks with good landscape connectivity is fundamental to the “coarse filter” aspect of the Old-Growth Forest Conservation Strategy and is important for the maintenance of viable, well-distributed populations of many species of wildlife. Because of the spacing of old-growth reserves and other non-development LUDs, Alternatives 1 and 2 would result in a good to excellent distribution of high quality old-growth blocks over the long term, and would have little to no effects on landscape “pinch-points.” Alternatives 3, 5, and 6 would have good to very good spacing of old-growth reserves and other non-development LUDs and would similarly affect only one “pinch-point.”

Under Alternative 4, the long-term result would be a good distribution of high quality old-growth blocks in the four biogeographic provinces with old-growth reserves, but a poor to fair distribution in the other provinces over the long term. The old-growth retention requirement would mitigate this to some degree, but would not necessarily result in blocks or large patches of POG being retained. This alternative would also negatively affect three critical landscape “pinch-points.”

Alternative 7 would result in a poor distribution of high quality old-growth blocks over the long term throughout most of the Tongass because of the lack of old-growth reserves, the lack of an old-growth retention requirement, and the high acreage of development LUDs.

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It would negatively affect four critical landscape “pinch-points” and result in a lower degree of landscape connectivity due to narrower beach buffers.

Species-Specific Effects

Expert panel viability assessments were conducted for key species to rate the alternatives considered in the 1997 Forest Plan Revision EIS. These ratings were transferred to the alternatives in this EIS, based on the four alternatives that are similar between EISs (i.e., 1997-Alternative 6 is similar to 2007-Alternative 4, 1997- Alternative 11 is similar to 2007-Alternatives 5 and 6, and 1997-Alternative 2 is similar to 2007-Alternative 7), and based on harvest acreage similarities. The ratings were also transferred into a relative qualitative description of the likelihood of maintaining viable, well-distributed populations so that the alternatives could more easily be compared.

Under Alternative 1, the likelihood of maintaining viable, well-distributed populations on the Tongass after 100 years is estimated to be very high for the goshawk, marten, wolf, and brown bear, and moderate for endemic mammals. Alternative 2 would rate almost as high. Under Alternative 3, this likelihood is estimated to be very high for the goshawk; high for the marten, wolf, and brown bear; and moderate for endemic mammals.

Alternatives 5 and 6 would have similar ratings. The likelihood of maintaining viable, well-distributed populations on the Tongass after 100 years is estimated to be high for the goshawk, wolf and brown bear; and moderate for the marten and endemic mammals.

Alternatives 4 and 7 rate the lowest among the alternatives. For Alternative 4, the likelihood of maintaining viable, well distributed populations on the Tongass after 100 years is estimated to be high for the wolf; moderately high for the goshawk and brown bear; moderate for the marten; and moderately low for endemic mammals. For Alternative 7, the likelihood is estimated to be moderately high for the wolf and brown bear; moderate for the goshawk and marten; and very low for endemic mammals.

Deer habitat capability expressed in terms of percent of 1954 values can be used to identify the amount of habitat change over time

(current habitat capability = 88 percent of 1954 value, based on the deer model). After 100 years of Forest Plan implementation, the percentage for Alternative 1 could drop as low as 86 percent, 84 percent under Alternative 2, 83 percent under Alternative 3, 82 percent under Alternative 6, 81 percent under Alternative 5, 79 percent under Alternative 4, and 77 percent under Alternative 7. These percentages could be increased somewhat with more intensive management of young-growth forests.

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Photograph taken looking northeast with Lindenberg Peninsula on Kupreanof Island and the mouth of Petersburg Creek (front cover) in the foreground, Petersburg Mountain (front cover) in the middleground, and Frederick Sound and the mainland in the background.