

Proposed Revision
Roadless Rule
36 CFR Part 294
For Tongass National Forest

Supplemental
Information
Report

October 2003

Executive Summary

I. Section I -- Overview

A. Background	4
B. Scope of this Report	5
C. Criteria for Evaluation	7
D. Relationship among the Roadless Rule, Forest Planning, and Site-Specific Projects	8
E. Summary of New Circumstances and Information	10
F. Process of Analysis and Evaluation	20

II. Specific Areas of Investigation

A. Economic	21
B. Subsistence	31
C. Transportation Development	38
D. Recreation	41
E. Biodiversity	44
F. Other Issues Raised	53
Mineral Development	
Forest Health	
Karst Resources	
Social	
Water Quality	
Threatened, Endangered and Sensitive Species	
Other Alternatives in the Roadless FEIS	

III. Conclusions 59

IV. Appendices 60

A. Economics	61
B. Subsistence	64
C. Transportation	65
D. Recreation	66
E. Biodiversity	66
F. Social	71
G. Minerals	78
H. Forest Health	79
I. Karst	80
J. Water Quality	81
K. Interdisciplinary Team	81

Executive Summary

This report was prepared to determine whether a decision to adopt the proposed rule published in the Federal Register on July 15, 2003 (68 FR 41865) to exempt the Tongass National Forest from the prohibitions of the Roadless Area Conservation Rule (66 FR 3244) (roadless rule) can be made based upon the Final Environmental Impact Statement published for the roadless rule in November, 2000, or alternatively, whether significant new circumstances or information exist that require the preparation of a supplemental environmental impact statement.

The report is comprised of four sections. Section I provides an overview of the report. Part A of Section I is a background description of the roadless rule, the process by which it was developed, the litigation filed since its adoption in January, 2001, and how a settlement agreement reached in the State of Alaska's lawsuit is related to the publication of the July 15, 2003 proposed rule. Part B describes the scope of the analysis contained in the report. Part C reviews the applicable case law that provides criteria for determining when supplemental environmental analysis is needed. Part D explains how the roadless rule relates to forest planning in general, the Tongass Forest Plan, and site-specific project planning. Part D also includes a summary of the differences between the Tongass Forest Plan in effect when the roadless rule's environmental impact statement was completed and the version in effect today. Part E provides a brief, summarized analysis of these differences and other potential new circumstances or information. Part E also describes the reasons why the Forest Service has determined that none of them result in significantly different environmental effects that are relevant to the decision to be made, which is whether to adopt the proposed rule to exempt the Tongass National Forest from the prohibitions of the roadless rule or select another alternative from the roadless rule's environmental impact statement.

Section II describes the analysis and findings relating to specific areas investigated in detail. These include economic factors assessed in Part A, subsistence in Part B, transportation development issues in Part C, recreation in Part D, and biodiversity in Part E. Section II also briefly describes other issues that were raised but were deemed not to warrant detailed investigation, including mineral development, forest health, karst resources, threatened, endangered, and sensitive species, and other alternatives described in the roadless rule's environmental impact statement.

Section III contains the conclusion of the report, which is that no significant new information or changed circumstances exist that require the preparation of a supplemental environmental impact statement before making the decision to adopt the proposed rule to exempt the Tongass National Forest from the prohibitions of the roadless rule or select another alternative from the roadless rule's environmental impact statement.

Section IV contains appendices that provide additional information regarding each of the issues described in Section II.

Section I – Overview

A. Background

On January 12, 2001, the Department of Agriculture published a final rule prohibiting road construction, road reconstruction, and timber harvest in inventoried roadless areas. This rule, entitled “Special Areas: Roadless Area Conservation” (66 FR 3244) (roadless rule), changed the land management on 58.5 million acres of inventoried roadless areas in 120 national forests. The roadless rule changed the Forest Service’s longstanding approach for management of inventoried roadless areas through forest-by-forest land and resource planning.

The roadless rule was promulgated to prohibit activities that can pose risks to the social and ecological values of inventoried roadless areas and limit the scope of road construction, reconstruction, and timber harvest. As part of this rulemaking, the Forest Service developed alternatives specific to the Tongass National Forest because of its unique environmental, social and economic conditions (Draft Environmental Impact Statement [DEIS], May 2000 and Final Environmental Impact Statement [FEIS], November, 2000). Additionally where appropriate, specific implications to the Tongass National Forest were discussed in specialists’ reports (Specialist Reports for the Roadless Area Conservation Final Environmental Impact Statement; Report on Tongass Biological Resources, Tongass Economics, and Socioeconomic). As described in the Roadless FEIS, the roadless rule was predicted to cause social and economic hardship to communities throughout Southeast Alaska (Roadless FEIS Vol. 1, 3-202, 3-326 to 3-350, 3-371 to 3-392).

Following the promulgation of the final rule, a number of lawsuits were quickly filed in Federal courts in Idaho, Utah, North Dakota, Wyoming, Alaska, and the District of Columbia. On July 10, 2001, the Department of Agriculture announced in an Advanced Notice of Proposed Rulemaking (ANPR) that it would consider changes to the scope and requirements of the roadless rule in response to public concerns (66 FR 35918).

In a case before the US District Court for the District of Idaho, the court issued a preliminary injunction prohibiting implementation of the roadless rule. The District Court ruling was appealed to the Ninth Circuit Court of Appeals which reversed the District Court and remanded with a court conclusion that the environmental impact statement in support of the roadless rule was in conformance with the general statutory requirements of the National Environmental Policy Act.

Running parallel to the lawsuit in the District Court of Idaho was a lawsuit filed by the State of Alaska and six other parties alleging that the roadless rule violated the Administrative Procedure Act (APA), National Forest Management Act (NFMA), National Environmental Policy Act (NEPA), Alaska National Interest Lands Conservation Act, Tongass Timber Reform Act, and other land use and environmental laws.

Following the Ninth Circuit's ruling on the Idaho case, the Department of Agriculture settled the Alaska case by agreeing to publish 1) an Advanced Notice of Proposed Rulemaking (ANPR) to evaluate permanently discontinuing the application of the roadless rule to the Tongass and Chugach National Forests in Alaska (68 FR 41864), and 2) a proposed amendment to the roadless rule to exempt the Tongass National Forest from prohibitions against timber harvest, road construction, and reconstruction in inventoried roadless areas until the USDA promulgates a revised final roadless area conservation rule, to which the agency originally sought public comments in the July 10, 2001, advance notice of proposed rulemaking (66 FR 35918).

On July 14, 2003 the District Court of Wyoming ruled on the lawsuit challenging the roadless rule brought by the State of Wyoming against the Forest Service. The District Court ruled that the Forest Service violated the National Environmental Policy Act, and the Wilderness Act in promulgating the roadless rule (Case No. 01-CV-86-B). The court, therefore, enjoined the Forest Service from implementing the roadless rule. The final resolution of this ruling and other ongoing roadless cases remain pending.

The proposed amendment to the roadless rule was published in the Federal Register on July 15, 2003 (68 FR 41865). The public was provided a 30 day comment period, which was extended an additional 19 days until September 2.

B. Scope of this Report

Development of Federal policy, including rulemaking, must conform with procedural requirements of Federal law, including specifically the Administrative Procedure Act and the National Environmental Policy Act. Public notice, comment, agency response, and regulatory analysis certifications through the Federal Register fulfilled the requirements of the Administrative Procedure Act.

The final roadless rule was accompanied by a final environmental impact statement [Forest Service Roadless Area Conservation, USDA Forest Service, (November, 2000)] and Record of Decision [published as part of the final rule, 36 CFR 294, Special Areas; Roadless Area Conservation, on January 12, 2001 at 66 FR 3244]. Through the environmental impact statement process, the requirements of NEPA were fulfilled.

The Final Environmental Impact Statement (Roadless FEIS) consisted of four volumes: Volume I: Final Environmental Impact Statement, Volume II: Maps, Volume III: Response to public comment, and Volume IV Letters from agencies and elected officials. In addition the bound volumes titled: Specialist Reports for the Final Environmental Impact Statement, and Final Rule and Regulatory Impacts accompanied the Roadless FEIS.

Any proposed changes to the roadless rule of January 2001 will require that the same procedural requirements be satisfied as during the promulgation of the rule; in other words, that requirements of the Administrative Procedure Act and NEPA be met.

To satisfy the requirements of NEPA, any decision to change the roadless rule for the Tongass National Forest must be supported by environmental analysis. Such requirements can be fulfilled by the Final Environmental Impact Statement for the roadless rule and accompanying volumes and reports, unless new information or changed circumstances would require the preparation of a supplement to the Final Environmental Impact Statement.

The Roadless FEIS explored four alternatives for the management of inventoried roadless areas within the National Forest System (Roadless FEIS Vol. 1, 2-5 to 2-14). A subset of alternatives applicable to the prohibition alternatives (Alternatives 2, 3, 4 and the preferred alternative in the Roadless FEIS) were considered (Roadless FEIS Vol. 1, 2-10 to 2-12). The proposed change to the roadless rule contained in the Federal Register announcement of July 15, is equivalent to the nation-wide preferred alternative coupled with the Tongass Exempt option contained in the FEIS. A review of the Roadless FEIS shows that the proposed exemption of the Tongass was a detailed alternative set forth and considered in the Roadless FEIS.

The scope of this report is, therefore, to determine whether the environmental analysis done for the 2000 Roadless FEIS, is sufficient to support the change of the roadless rule to exempt the Tongass National Forest in light of potential new information or changed circumstances.

C. Criteria for Evaluation

The Council on Environmental Quality (CEQ) NEPA regulations provide that agencies shall prepare supplements to either draft or final environmental impact statements if (i) the agency makes substantial changes in the proposed action that are relevant to environmental concerns; or (ii) there are significant new circumstances or information relevant to environmental concerns. 40 CFR 1502.9(c). The proposed rule does not constitute a substantial change in the proposed action relevant to environmental concerns. The proposed action on the original rule (Roadless FEIS, 1-17 and Appendix A of the Draft EIS) provided that the prohibitions of the roadless rule would not apply to the Tongass. Instead, a decision on whether to apply the roadless rule to the Tongass would be made in 2004. The July 15, 2003 proposed rule is substantially similar to that proposal. The alternatives considered are the same as those set forth and analyzed in the Roadless FEIS. This report therefore considers whether there are new circumstances or information sufficiently significant to require the preparation of a supplemental environmental impact statement (SEIS).

Not every change requires a SEIS; only those changes that cause effects which are significantly different from those already studied require supplementary consideration. *Davis v. Latschar*, 202 F.3d 359, 369 (D.C. Cir. 2000). The Supreme Court admonished in *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 377 (1989) that “[A]n agency need not supplement an EIS every time new information comes to light after the EIS is finalized. To require otherwise would render agency decisionmaking intractable.” However, if there remains Federal action to occur, and the new information is sufficient to show that the remaining action will affect the quality of the human environment in a significant manner or to a significant extent not already considered, an SEIS must be prepared. *Marsh*, 490 U.S. at 374. The agency must take a “hard look” at the allegedly new and significant information. *Id.* at 385.

“Significantly” as used in NEPA is defined in 40 CFR 1508.27 and requires consideration of both the context and the intensity. *Marsh*, 490 U.S. at 374 n.20.

New information has been held not to require a SEIS when it “did not present new information that seriously alters the environmental picture.” *Wisconsin v. Weinberger*, 745 F.2d 412, 423 (7th Cir. 1984). In *Kootenai Tribe of Idaho v. Veneman*, 313 F.3d 1094, 1118 (9th Cir. 2002), the Ninth Circuit upheld the decision not to prepare a SEIS for the roadless rule despite the fact that the agency had discovered 4.2 million additional acres to which the roadless rule would apply after the close of the comment period on the DEIS. In *California v. Watt*, 683 F.2d 1253, 1267-68 (9th Cir. 1982), *rev’d on other grounds sub. nom.*, *Secretary of the Interior v. California*, 464 U.S. 312 (1984), the Ninth Circuit upheld the decision not to prepare a SEIS for an outer continental shelf oil and gas lease sale despite the fact that estimated oil reserves in the lease area were approximately twice what had originally been estimated. In analyzing whether

the agency's decision not to supplement was reasonable the Ninth Circuit looked to "the environmental significance of the new information, the probable accuracy of the information, the degree of care with which the agency considered the information and evaluated its impact, and the degree to which the agency supported its decision not to supplement with a statement of explanation or additional data. *Ibid.*

D. Relationship among the Roadless Rule, Forest Planning, and Site-Specific Projects

As the Ninth Circuit stated in *Kootenai Tribe*, 313 F.3d at 1117 n. 20, the roadless rule was an exercise of the general rulemaking authority of the 1897 National Forest Organic Act rather than of forest planning under the National Forest Management Act (NFMA). The aim of the process leading up to the roadless rule was the selection of an alternative relating to prohibitions on certain activities in inventoried roadless areas, not the selection of a forest plan. The regulations would remain in effect regardless of changes in the forest plan in the Tongass or elsewhere. The Roadless FEIS made this clear. After stating that under the Tongass Exempt alternative "land management would continue as outlined in the April 1999 Record of Decision for the Tongass Land and Resource Management Plan" the Roadless FEIS added the footnote "The land allocations and management prescriptions for these areas could be reconsidered during plan revision." (Roadless FEIS Vol. 1 2-11 n.6). A similar point was made in volume 3 of the Roadless FEIS at 198.

Although the Roadless FEIS assumed that the Tongass would be managed pursuant to the 1999 ROD for the revised Tongass Forest Plan, the U.S. District Court for the District of Alaska subsequently vacated the 1999 ROD for violations of NEPA and NFMA . Although environmental groups have continued to pursue an appeal of the decision of the District Court, the Tongass is now being managed pursuant to the 1997 ROD for the revised plan, as readopted with non-significant amendments by the 2003 ROD on the Tongass Forest Plan Revision SEIS.

The 1999 ROD did not choose a specific alternative that had been considered in detail in the 1997 FEIS for the Tongass Revision. Accordingly, the Roadless FEIS was, in general, not based upon the specific provisions of the 1999 ROD, but rather on the general findings regarding the 1997 Tongass Forest Plan FEIS alternatives rated as posing a lower level of risk to wildlife.

Under this alternative, land management would continue as outlined in the 1999 Record of Decision for the Tongass Forest Plan (USDA 1997d). Projected risk to ecosystem health would remain unchanged, human uses would continue at levels projected under the Tongass Forest Plan, and social

and economic values would be affected as described within the current Tongass Forest Plan and Tongass Forest Plan FEIS (USDA Forest Service 1997d).

The 1999 Tongass Forest Plan Record of Decision is comparable to the other Tongass Forest Plan FEIS alternatives that were ranked among those having lower species risk ratings. Based on comparisons under the current Tongass Forest Plan there is a moderate to high likelihood that habitat conditions will support well-distributed species.

Roadless FEIS at 3-380

Alternative 11 of the Tongass Forest Plan FEIS, which with minor modifications was selected as the 1997 ROD TLMP, was ranked among those alternatives having lower species risk ratings (1997 ROD at 15).

In issuing the 1999 ROD, the Under Secretary emphasized the close relationship between the 1997 and 1999 RODs.

The 1997 Forest Plan is a good forest plan. Its partnership with research scientists and innovative “science consistency review” process are particularly noteworthy. The analysis in the plan and public involvement are thorough and can be relied on. In this 1999 ROD, I am not questioning the analysis of the 1997 Forest Plan or reinterpreting the scientific findings. In fact I am adopting most of the Regional Forester’s decisions in the 1997 Forest Plan. However, I am changing some aspects of the 1997 Forest Plan, not because I find it fails to meet minimum mandatory requirements, but because I conclude that for multiple use reasons the Secretary’s responsibilities and authorities should be exercised to make the plan better.

1999 ROD at 1

The Under Secretary made only four changes to management direction in the 1999 ROD. To emphasize deer habitat capability in project level planning decisions, he directed harvest rotations of 200 years or greater in 42 Wildlife Analysis Areas. He changed standards and guidelines relating to road densities for the protection of wolves from “Open road densities of 0.7 to 1.0 per square mile of landscape or less may be necessary to reduce mortality to sustainable levels” to “Open road densities of 0.7 miles or less per square mile are necessary to reduce mortality to sustainable levels.” Finally, he changed the Land Use Designation (LUDs) of approximately 234,000 acres in 18 Areas of Special Interest from development to mostly natural LUDs. In connection with this re-designation of the Areas of Special Interest, the Under Secretary determined two rivers to be suitable for designation as a wild river. The Under Secretary

calculated that these changes would result in an allowable sale quantity (ASQ) of 187 million board feet (MMBF) per year under the 1999 ROD versus an ASQ of 267 MMBF per year under the 1997 ROD.

Finally, the roadless rule is a general rulemaking rather than a site-specific project decision. The roadless rule or any exemption from the rule would not by itself authorize any timber harvest or road construction. Any such harvest or construction would require its own site-specific impact analysis.

E. Summary of New Circumstances and Information

The decision whether a supplemental EIS is required involves a two-step process. First one must identify new information or circumstances, and second, one must analyze whether it is significant to the analysis of the proposed action. The Forest Service has identified a new circumstance in the fact that the Tongass is currently being managed under the 1997 Tongass Forest Plan ROD rather than the 1999 ROD. The Forest Service has analyzed numerous sources to identify potentially new information. These sources include the analysis developed during the preparation of the 2003 SEIS on the Tongass Forest Plan revision, recent timber offerings, sale and harvest figures, the Chapter 11 bankruptcy of Silver Bay logging company, recent timber market developments, recent employment figures for Southeast Alaska, and recent monitoring and technical reports relating to the Tongass. Another potentially new circumstance is the continuing decline in timber harvest levels and associated employment since the Roadless FEIS in November 2000. Finally, a comment was received on the July 15, 2003 proposed rule that a proposed land exchange with the Sealaska Corporation was a new circumstance that warranted preparation of a supplemental EIS.

Implementation of the 1997 Forest Plan Instead of the Modifications made in the 1999 Record of Decision

The effects of implementing the 1997 Tongass Forest Plan were fully analyzed and displayed to the public during the development of the EIS for that plan. That analysis was updated in the Supplemental EIS completed in 2003 (2003 SEIS). Thus, while the Roadless EIS assumed that the then current forest plan, the 1999 ROD, would be the operative plan under the Tongass Exempt Alternative (despite the fact that the 1999 ROD was under legal challenge at the time), the fact that the 1999 ROD was subsequently vacated by the courts does not invalidate the analysis of effects contained in the 1997 EIS and the 2003 SEIS. Nor does it result in effects that have not already been studied and fully considered in the agency's decision-making process.

The question remains, however, whether implementation of the 1997 Forest Plan has effects that are significantly different from those of the 1999 ROD that are relevant to the decision to be made, which is whether to adopt the July 15, 2003 proposed rule or select another alternative from the Roadless FEIS. In the 1999 ROD, the Under Secretary stated there was no material difference in environmental effects from those presented in the 1997 EIS.

My decision does not alter the effects analysis portrayed in the National Environmental Policy Act (NEPA) documents in any meaningful way. To reach my decision, I relied upon management scenarios (including land use designations) that have been analyzed and disclosed in the [Tongass Land Management Plan] revision NEPA documents, and have been available to the public for review and comment.

1999 ROD at 3.

The Roadless FEIS did not specifically address the effects of the four modifications made by the 1999 ROD to the 1997 Tongass Forest Plan. Instead the Roadless FEIS stated that the 1999 ROD “is comparable to the other Tongass Forest Plan FEIS alternatives that were ranked among those having lower species risk ratings” (Roadless FEIS Vol. 1 at 3-380). The alternative chosen in the 1997 ROD was among those having lower species risk ratings. The 1997 FEIS stated that “Except for Alternative 1, Alternative 11 [which was selected as the Forest Plan in the 1997 ROD] is considered to have the least overall risk” (1997 FEIS at 3-428). Consequently, the Roadless FEIS did not treat the differences between the 1999 and 1997 RODs as significant to the analysis of the roadless rule alternatives. A brief analysis of each of the four modifications is provided below, followed by a discussion of several potential cumulative effects of all four modifications and other potential changed circumstances, some of which were raised in comments received on the July 15, 2003 proposed rule. That analysis confirms that implementation of the 1999 ROD rather than the 1997 ROD does not constitute a significant new circumstance requiring the preparation of a supplemental EIS.

Extended Rotation in Selected Wildlife Analysis Areas: The Tongass is divided into approximately 190 Wildlife Analysis Areas (WAAs). The 1999 ROD extended the timber harvest rotation from 100 to 200 years in 42 selected WAAs “broadly distributed across the Forest to reduce the potential for deer habitat capability decline. In doing so, I am providing greater assurance of healthy deer populations that are capable of supporting subsistence needs” (1999 ROD at 23). The extension of the harvest rotation does not change the trees that are available for harvest, but merely the timing of their harvest. The 1999 ROD did not attempt to quantify the increased assurance of healthy deer populations that might occur from the rotation extension. The rotation extension is not discussed in the Roadless FEIS.

In adopting the extended rotation, the 1999 ROD explained that this concern was based on the analysis in the 1997 Tongass Forest Plan FEIS that, if timber were harvested at the maximum level allowed (267 million board feet) every year for 100 years, deer habitat capability was projected to decline by approximately 50 percent in some WAAs, and that “many of the WAAs in which declines are projected are located in important subsistence areas where current deer harvest has exceeded 20 percent of habitat capability” (1999 ROD at 23).

An average of 329 million board feet was harvested annually on the Tongass from 1980 through 1996, 60 percent of the maximum allowed at the time under the 1979 Forest Plan. Since the plan was revised in 1997, less than half of the allowable timber harvest and road construction activities have taken place. Accordingly, the reduction in habitat capability is likely to be less than the worst-case scenario estimated in the 1997 Tongass Forest Plan FEIS, and not significantly different under the 1997 Plan than the 1999 ROD.

In addition, future deer populations and subsistence opportunities are affected by hunter demand as well as changes in habitat capability. Hunter demand is a function of many factors, such as human population growth and hunting regulation, many of which are independent of land management decisions made by the Forest Service. To the extent that these factors affect subsistence uses of deer, those effects would not be substantially different under the 1997 Forest Plan than under the 1999 ROD.

The 1999 ROD recognized the interplay of these factors, the difficulty in analyzing them at the Forest Plan scale before site-specific proposals are made, and the efforts made in the 1997 Plan to deal with these issues.

The Regional Forester’s analysis [in the 1997 EIS] concluded that implementation of the 1997 Forest Plan may have resulted in a significant restriction to subsistence use of deer in some specific areas due to the potential effects of projects on the abundance and distribution of deer, together with competition for deer by increasing numbers of subsistence and non-subsistence hunters. It was not possible to predict whether there will be such impacts in particular areas until proposals for specific actions are presented and evaluated.

....

While reasonable steps were taken in the 1997 ROD to minimize impacts upon subsistence, it is not possible to eliminate impacts entirely in these areas.

1999 ROD at 58-59

The impact of the extended rotation on timber harvest and socio-economic impacts is discussed below under “Amount of Timber Available from Roaded

Portions of Tongass.” That impact is not sufficiently significant to require the preparation of a supplemental EIS.

In light of all these factors, the implementation of the 1997 Forest Plan without the extended rotation provisions of the 1999 ROD does not result in significantly different environmental effects relevant to the decision to be made on the July 15, 2003 proposed rule.

Standard and Guideline on Open Road Densities for Wolf Mortality: The 1999 ROD reduced the maximum density of roads open to vehicular traffic from a range of 0.7 to 1.0 miles per square mile to a maximum of 0.7 miles per square mile where such limits are deemed necessary by an interagency analysis to address wolf mortality concerns. The 1999 ROD refers to a Conservation Assessment prepared during development of the 1997 Forest Plan, and a risk assessment panel assembled to analyze the Plan’s effects.

Neither the risk assessment panel nor the conservation assessment recommended a strict density threshold to address the issue of wolf mortality. However, each found that the impact of roads and associated human use should be carefully considered and that the Forest Service and the State of Alaska need to work together to address the issue.... Thus, the existing guideline utilizes a cooperative approach to determine where the road density standard and guideline for wolves will be implemented. I am not changing the cooperative approach regarding implementation of the standard and guideline.

1999 ROD at 44-45

That standard and guideline is discussed further in the 1997 Tongass Forest Plan FEIS.

The Forest Plan contains a forest-wide standard and guideline that outlines a cooperative interagency analysis to identify regions where wolf mortality is apparently excessive. In such areas we would attempt to determine if the mortality is unsustainable and identify the probable causal factors of the excessive mortality. If road access and specific roads are identified as contributing to excessive mortality, then road closures or access management recommendations can be made and actions taken. In addition, seasons, harvest methods and bag limits need to be considered as population management tools by the [Alaska Department of Fish and Game] and Federal Subsistence Board as a cooperative approach to managing wolf mortality at a sustainable level.

1997 Tongass Forest Plan FEIS at N-37

The 1997 Forest Plan contains the flexibility to respond to any concerns that may arise regarding wolf mortality, including the imposition of restrictions on open road density as prescribed in the 1999 ROD, should the interagency analysis suggest a need for such restrictions. In addition, other factors influence wolf mortality beyond the density of open roads, and other actions can be taken to address those factors, whether or not the more restrictive open road density standard is in effect.

The road density standard and guideline controls the density of roads *open* at any one time. It does not directly limit which roads can be built as other roads are closed and which timber can be harvested.

Accordingly, implementation of the 1997 Tongass Forest Plan without the more restrictive road density standard of the 1999 ROD does not result in substantially different environmental effects relevant to the decision to be made on the July 15, 2003 proposed rule.

18 Areas of Special Interest: The 1999 ROD changed the allocation of 18 different areas totaling approximately 234,000 acres from development land use designations (LUDs) to non-development LUDs, in which commercial timber harvest would be prohibited and road construction prohibited or severely limited. These 18 areas comprise a minute portion of the total area of the Tongass (1.4 percent), and of the inventoried roadless areas on the Forest (2.5 percent). Re-allocating these areas back to development LUDs under the 1997 Forest Plan reduces the total area allocated to the old-growth conservation reserve system in the 1999 ROD by 1.7 percent. The reduction is not a significant new circumstance with regard to wildlife conservation and population viability.

Roadless values of these areas could be affected by project activities allowed under the 1997 Forest Plan, subject to standards and guidelines designed to protect resource values while allowing some development to occur. Effects on these areas of site-specific proposals will be considered during the project-level NEPA process.

For these reasons, the environmental effects across the Tongass would not be affected in a substantially different way relevant to the decision to be made on the July 15, 2003 proposed rule by the implementation of the 1997 Forest Plan instead of the 1999 ROD. In contrast to the particularized designation of Land Use Designations in the forest planning process, the scope of the decision to be made on the roadless rule is general and forest-wide.

Wild River Recommendations: As part of the changes in management direction for the 18 areas of special interest, the 1999 ROD recommended that the Castle River and Kushneahin Creek be designated by Congress as components of the National Wild and Scenic Rivers System (NWSRS). The 1997 ROD determined these rivers to be unsuitable for such designation

because they are typical of rivers in the Kupreanof Lowlands and are not unique within the Interior Islands Geographic Province, “which would be adequately represented by designation of the 12 rivers in this Province that I am recommending, which total 153 miles” (1997 ROD at A-8 and A-9). The 1997 ROD recommended a total of 32 rivers across the Forest totaling 541 miles as additions to the NWSRS. The 1997 ROD also found that the riparian and fish habitat standards and guidelines in the Forest Plan will protect the outstandingly remarkable values and free-flowing characteristics of the Castle River and Kushneahin Creek. Consequently, implementation of the 1997 ROD instead of the 1999 ROD will not result in substantially different environmental effects relevant to the decision to be made on the July 15, 2003 proposed rule.

Amount of Timber Available from the Roaded Portions of the Tongass:

Comments were received on the proposed rule asserting that the analysis in the 2003 SEIS implied that 96 million board feet of timber would be available for harvest annually from the roaded portions of the Tongass, far more than the assumed harvest level of about 50 million board feet annually in the Roadless EIS. The comments suggest that the greater amount of timber available is a result of the elimination of the 200-year rotation in the 42 WAAs when the 1999 ROD was vacated. This difference is viewed by some as new information requiring preparation of a supplemental EIS for the proposed rule.

The Roadless FEIS estimated that 68 million board feet of timber would be offered for sale under the Alternative that was selected as the final roadless rule in the 2001 ROD, and of that figure, approximately 50 million board feet would be harvested annually (Roadless FEIS Vol. 1 at 3-378).

The 2003 SEIS displayed the effects of one alternative (Alternative 8) that contained management direction very similar to the roadless rule. Under that alternative, the SEIS estimated that of the 96 MMBF ASQ, approximately 79 MMBF would be economically viable and could be offered for sale. Only a proportion of that volume will actually be sold and harvested. In an analysis described later in this document (Section II., Specific Areas of Investigation, A. Economic), the expected volume of harvest is estimated at around 55 MMBF, a figure very comparable to the Roadless Rule estimate of 50 MMBF. Accordingly, there are no significant differences in environmental effects between implementation of the roadless rule and implementation of a similar alternative displayed in the 2003 SEIS.

Moreover, either scenario would result in a level of timber harvest well below the low-market estimate of average annual market demand of 124 million board feet. The Tongass Timber Reform Act of 1990 directs the Secretary to seek, subject to certain conditions, to provide a supply of timber from the Tongass which meets annual market demand and meets demand for each planning cycle. Accordingly, any difference between the two scenarios is not significant to the decision to be made on the July 15, 2003 proposed rule.

New Inventory of Unroaded Areas: The 2003 SEIS contained an updated inventory of unroaded areas, which included nearly 238,000 more roadless acres on the Tongass than were covered by the roadless rule due to slightly different interpretations and data sets. Some comments on the July 13, 2003 proposed rule asserted that this change, an increase of about 2.5 percent in the amount of unroaded areas on the Tongass, requires preparation of a supplemental EIS before making a decision to exempt the Tongass from the prohibitions of the roadless rule.

The roadless rule's prohibitions apply to "inventoried roadless areas," which are defined in the rule as areas identified on maps contained in the Roadless FEIS and subsequent revisions (36 CFR § 294.11). Those maps have not been revised. The preamble to the roadless rule also clarifies that "This definition does not apply to future areas that may be inventoried for wilderness consideration or other purposes" (66 FR 3250). The preamble also clarifies that "The agency had adequate information to assess the effects of implementing the prohibition of road construction and limited timber harvesting in inventoried roadless areas. There was not sufficient information to make a decision regarding other uninventoried unroaded areas" (66 FR 3253).

While the 2003 SEIS updated the inventory of unroaded areas on the Tongass, it did not amend 36 CFR 294.11 or revise the maps referred to therein. Nor did the 2003 SEIS alter the management direction set out in the 1997 Forest Plan. Any modification of the existing unroaded character of any newly identified unroaded area would require environmental analysis under NEPA, and would be subject to management direction of the 1997 Forest Plan that protects roadless and other resource values across the Tongass.

For these reasons, the updated inventory does not result in significantly different environmental effects relevant to the decision to be made on the July 15, 2003 proposed rule.

Biodiversity: Under the 1997 Forest Plan, if timber were harvested at its maximum allowable level (ASQ) of 267 million board feet annually for 120 years, 83 percent of the productive old-growth forest that was present on the Tongass when large-scale logging began in 1954 would still be present, compared to 92 percent that is present today. Under the 1999 ROD, which reduced the ASQ to an average annual level of 187 million board feet, 86 percent of 1954 old-growth forest would remain after 120 straight years of maximum allowable timber harvest. Over the course of the next 10 to 12 years, when the Forest Plan is scheduled to be revised, the difference between the effects of the two RODs would be much smaller. In addition, the amount of timber actually harvested is limited more by market demand than by ASQ. The current estimate of average annual market demand for the high-market scenario is 184 million board feet,

less than the ASQ in either the 1997 or 1999 ROD. Thus, the higher ASQ of the 1997 ROD is irrelevant to actual impacts on biodiversity.

In addition, the Regional Forester found in the 1997 ROD that the Forest Plan provided for biodiversity.

I find that the old-growth strategy and specific species management prescriptions represent a balance of wildlife habitat conservation measures which consider the best available scientific information and, within an acceptable level of risk inherent in projecting management effects, will provide fish and wildlife habitat to maintain well-distributed viable populations of vertebrate species in the planning area, and maintain the diversity of plants and animals.

1997 ROD at 35-36

The Under Secretary made a virtually identical finding in the 1999 ROD (at 57). Consequently, implementation of the 1997 Forest Plan in lieu of the 1999 ROD would not result in substantially different environmental effects that are relevant to the decision to be made on the July 15, 2003 proposed rule.

Recreation and Tourism: Given the largely undeveloped nature of the Tongass, few recreation and tourism opportunities would be foregone by the additional development allowed under the 1997 Forest Plan in comparison to the 1999 ROD. Opportunities for road-accessible recreation and tourism would increase.

In the 1999 ROD, the Under Secretary found the 1997 Forest Plan sufficiently maintained recreation opportunities.

The Regional Forester focused on the different recreation and tourism opportunities and kinds and quality of recreation experiences available throughout the Tongass National Forest. The resource standards and guidelines and the LUD allocations reflected in the 1997 Forest Plan are sufficient to maintain recreational and tourism opportunities throughout the Forest.

1999 ROD at 36

Proposed Land Exchange: The agency received comments on the July 13, 2003 proposed rule that a land exchange proposal initiated by the Sealaska Corporation, an Alaska Native Corporation, represents a change in conditions that necessitates a new EIS.

The agency's feasibility analysis for the proposed land exchange, dated April 2003, states that "This proposal was the culmination of 5 years of informal

discussions and meetings between Sealaska and the Forest Service regarding a potential land exchange.” No agreement to initiate formal negotiations has been reached, nor has any agreement on specific parcels to be exchanged. The Forest Service will analyze the effects of a specific land exchange proposal after one has been developed. Any analysis at this stage would be speculative and, therefore, premature. This situation has not changed materially since the roadless rule’s FEIS was completed in 2000. Accordingly, there is no new circumstance that significantly changes the environmental effects relevant to the decision to be made on the July 15, 2003 proposed rule.

Market Demand and Timber Industry Decline: The amount of timber harvested from the Tongass and the number of related jobs in the timber industry in Southeast Alaska have both decreased substantially in recent years. The agency received comments on the July 13, 2003 proposed rule that the lower harvest level indicates the market demand for timber from the Tongass is substantially less than the estimate of market demand in the roadless rule’s FEIS, and the reduction in employment means the number of “jobs at risk” if the roadless rule continues to apply to the Tongass also is substantially less than the figures estimated in the roadless rule’s FEIS. The people who made these comments believe that these developments constitute significantly changed circumstances that require preparation of a new EIS before making a decision to exempt the Tongass from the prohibitions of the roadless rule.

As described in greater detail in the body of this report, the recent decline in timber harvest has been the most severe over the last 3 years. Timber markets in Southeast Alaska are both volatile and cyclical, and it is likely that a proportion of the current slump is owing to these factors. To the extent that this is true, a rebound to previous, higher levels of harvest is probable in the coming years if sufficient supply is made available. Historical harvest levels, after all, have been well in excess of the 124 million board feet demand level used as a benchmark for non-prohibition alternatives in the Roadless EIS.

Whatever the causes may be for the decline in the timber industry over the last 3 years, the policy goal of the Forest Plan is to maintain options for the industry to recover should local timber markets improve, as they have done following cyclical downturns in the past. Pursuant to the 1990 Tongass Timber Reform Act’s direction that the Secretary of Agriculture, subject to certain conditions, seek to provide a supply of timber from the Tongass that meets market demand, the Forest Service developed in 1997 estimates of market demand through 2010. In 2000, the agency adopted a procedure for determining how much timber to offer for sale in response to those estimates (65 Fed. Reg. 18962-18963, April 10, 2000). All of this information is summarized in Appendix A of each Tongass timber sale EIS.

Because markets for forest products are cyclical, and because the time required for preparation of timber sales is several years, the procedure takes several

factors into consideration, including the amount of timber expected to be harvested over the next years and the amount of timber that is under contract and available for harvest. Accordingly, the substantial reduction in the amount of timber harvested for the last two years has not affected the agency's estimate of market demand or its response to it. If current trends were to continue, however, the agency's intended sale offerings would be reduced. Conversely, if forest products markets were to improve and the amount of timber harvested were to increase, the amount of timber offered for sale would respond accordingly under the procedure, subject to funding constraints and maximum harvest levels stipulated in the ASQ.

In this sense, the procedure for determining how much timber to offer for sale from the Tongass is designed to be self-correcting. There is no need to shut the door on a struggling industry due to reduced activity caused in part by temporary market fluctuations and litigation, and foreclose the opportunities for recent job losses in Southeast Alaska to be reversed.

This situation was aptly described by the Regional Forester in the 1997 ROD.

Market demand is volatile; the projections done by the [Forest Service's Pacific Northwest Research Station] scientists have changed considerably each time they have been updated. Different economists will often make different projections of future demand because they often make different assumptions about the future.... Demand also will be influenced by whether or not businesses choose to invest in new wood-processing industries in Southeast Alaska over the next decade. Such decisions will be determined in part by investors' subjective evaluations of the certainty with which they can rely upon the Tongass as a reliable source of timber.

1997 ROD at 25

These observations appear to be as true today as they were in 1997. Accordingly, there is no new information that would result in effects significantly different than those displayed in the Roadless FEIS that are relevant to the decision to be made on the July 15, 2003 proposed rule.

Conclusion: After an interdisciplinary review of the changes in management direction and new circumstances that have developed since the roadless rule was adopted in January, 2001, the conclusion is that the decision-making picture is not substantially different now than it was at that time. The environmental effects of the alternatives considered in the Roadless FEIS are not significantly different in a way that is relevant to the decision being made, which is whether to adopt the proposed rule to exempt the Tongass from the prohibitions of the roadless rule, or select another alternative from the Roadless FEIS. The effects of implementing the proposed rule, if adopted, have been displayed to the public and thoroughly considered. Consequently, no additional environmental analysis

is required. Results of this interdisciplinary review are documented in the rule-making record.

F. Process of Analysis and Evaluation

Resource specialists on the interdisciplinary team reviewed the Roadless FEIS. In addition to the Roadless FEIS, this review draws upon a history of planning and analyses on the Tongass. The Tongass forest planning effort stands at the center of this work, with a revised plan published in 1997 and a supplement in 2003 (Final SEIS, Roadless Area Evaluation for Wilderness Recommendations, 2003). These additional Environmental Impact Statements incorporate extensive analysis of ecological, social and economic aspects of the Tongass and its management. Various scientific documents were produced in support of these plans, and these are referenced where appropriate.

The impacts estimated in the Roadless FEIS relied upon the 1997 Environmental Impact Statement for the Tongass Forest Plan and the supplemental environmental analysis of impacts contained in the 1999 modified Record of Decision (ROD) [a 1999 ROD was issued by Under Secretary Lyons in response to several administrative appeals that were filed challenging the 1997 ROD of Regional Forester Janik]. The 1999 ROD has since been vacated, and the management of the Tongass reverted to the 1997 ROD with non-significant amendments as readopted by the 2003 Supplemental FEIS and ROD for Roadless Area Evaluation and Wilderness Recommendations (2003 SEIS). Where the requirements and analysis based on the 1999 ROD are pertinent to perceived changed circumstances, they will be discussed.

Additionally, Forest Service decisions and court decisions, since promulgation of the roadless rule (January 2001), were reviewed to determine whether there were significant new circumstances or information relevant to environmental concerns.

The investigation into questions surrounding new information, changed circumstances and environmental analysis of these areas are specifically addressed in the following sections.

Section II – Specific Areas of Investigation

A. Economic:

Introduction

The purpose of this section is to evaluate the existence and significance of any new economic information relative to the management of roadless areas within the Tongass National Forest since the Roadless FEIS (November 2000). This analysis will consider if any new information would substantially alter the conclusions regarding economic impacts found in the Roadless FEIS.

Questions regarding current economic conditions, values and activities associated with the Tongass and the communities located on or near the Forest constitute an extremely broad topic area. This report, however, takes a much narrower focus. Specifically, it asks whether new economic circumstances or information significantly change or otherwise invalidate the estimated impacts used for comparing alternatives in the Roadless FEIS.

Economic impact estimation is an inexact science. While new economic data may slightly alter the numerical estimates found in the Roadless FEIS, the real question is whether these differences are indicators of real change in the economic conditions governing impact estimations or simply arithmetical artifacts arising when the new numbers are used in economic models but that, nonetheless, remain within the confidence intervals of the original estimates produced by those models.

Analysis of Roadless FEIS

The Roadless FEIS was reviewed with particular emphasis on the section in Vol. 1, Chapter 3 devoted to the Tongass National Forest (FEIS, 3-371 to 391). Additional review was made of the specialist reports accompanying the Roadless FEIS, specifically those treating socioeconomics and Tongass economics (Specialist Reports for the FEIS, November 2000).

Timber economics on the Tongass have been thoroughly analyzed by the Forest Service in its efforts to implement the economic provisions of the Tongass Timber Reform Act of 1990. This work has been instrumental in establishing timber demand benchmarks in both the Tongass Forest Plan effort and the Roadless FEIS.

The estimation of timber employment and income impacts related to the implementation of the roadless rule on the Tongass accounts for the major proportion of economic analysis specific to the Tongass in the Roadless FEIS. First the Roadless FEIS calculates available timber using the different timber

inventories stipulated under the different planning alternatives. Next, available timber volume is compared with an assumed level of “market demand” (to be discussed further below) in order to derive expected harvest levels. Available timber volume is sufficient to supply demand in the planning alternative exempting the Tongass from provisions of the roadless rule. In the prohibition alternatives, however, available timber falls short of demand, and this shortfall is then used to derive negative employment and income impacts expected from the implementation of the alternatives. While the details involved in actual estimation can be quite complex, the overall framework of the procedure is relatively straightforward.

Key numbers used in the derivation of the Roadless FEIS employment and income impacts are shown below. The Roadless FEIS estimated that approximately two thirds of available timber volume on the Tongass exists in inventoried roadless areas. It further estimated that virtually all of this volume would be precluded under each of the prohibition alternatives. Based on the Allowable Sale Quantity (ASQ) of 187 MMBF stipulated in the 1999 Tongass Forest Plan ROD (since vacated), the Roadless FEIS assumed an annual sale offering on the Tongass of 176 MMBF, which would be made available under the non-prohibition alternatives (Alternative 1 and Tongass exempt alternative in the Roadless FEIS). Under the Tongass Not Exempt Alternative (national alternative 2), restrictions in roadless areas would reduce the sale offering to 73 MMBF per year, and under national alternatives 3 and 4 the offering would be further reduced to 68 MMBF. Not all offered volume is sold or eventually harvested, and, in light of this fact, the Roadless FEIS predicts an annual harvest level of around 50 MMBF per year under the three prohibition alternatives included under the Tongass Not Exempt Alternative.

Table 1. Timber Sector Employment and Income Impact Calculation Figures from the Roadless FEIS (Forest Service impacts excluded)

	ALT 1 & Tongass Exempt	ALT 2	ALT 3 & ALT 4
Expected Sale Offering (MMBF)	176	73	68
Expected Harvest (MMBF)	124	51	47
Difference Relative to ALT 1	--	73	77
Expected Direct Employment Losses (annual employment) ¹	--	364	383
Expected Total Employment Losses (annual employment) ²	--	582	613
Expected Direct Income Losses (\$million / year) ³	--	\$16.7	\$17.6
Expected total Income Losses (\$million / year) ⁴	--	\$26.8	\$28.2

Source: USDA Forest Service 2000 (Roadless FEIS)

¹Implies 5.0 jobs directly generated in the logging and sawmill sectors for every 1 MMBF harvested.

²Implies 0.6 additional support jobs for every direct job in the logging and sawmill sectors.

³Implies an annual wage of approximately \$46 thousand in the logging and sawmill sectors.

⁴Implies 0.6 additional dollars generated in the support sectors for every dollar of income directly generated in the logging and sawmill sectors.

Based on this shortfall, the Roadless FEIS estimated expected direct job losses of around 370 jobs per year for the prohibition alternatives (see Appendix A for further explanation). The Roadless FEIS also estimates potential impacts to Forest Service employment and their associated ripple effects. Direct losses of Forest Service jobs and the associated dollars in income were estimated for the prohibition alternatives. The Roadless FEIS recognizes that “[t]he relationship between Forest Service employment and timber is complex and difficult to quantify” (at 3-379), and these estimates are not incorporated in the Roadless FEIS tables describing impacts of specific Tongass alternatives (e.g. Table 3-80).

Net revenue estimates from timber sale activity is another important economic dimension that is considered in the Roadless FEIS. Based on Forest Service accounts related to the Tongass National Forest timber sale program for 1996 through 1998 (TSPIRS), the Roadless FEIS estimated an average net revenue per MBF harvested from the Forest. For the years in question, this value is negative (the implied figure is -\$178/MBF). Applying this average loss to the approximately 75 MMBF reduction in annual sale volume that occur under the prohibition alternatives, the Roadless FEIS estimates that implementing these alternatives would reduce net timber program losses by around \$13.6 million per year (Roadless FEIS Vol. 1, Table 3-63, 3-304). The Roadless FEIS notes the difficulty in predicting net revenues, and the estimate presented here is likely not very precise.

The Roadless FEIS treats recreation and tourism impacts of roadless rule alternatives on the Tongass in a qualitative fashion. It claims that prohibition alternatives will lower risk to fish and wildlife species valued for both consumption (hunting, for example) and non-consumption (wildlife viewing) uses. Likewise, the prohibition alternatives will maintain “the wild and unspoiled nature of many inventoried roadless areas” along with current levels of remote and semi-remote recreational opportunities (at 3-378). Possible negative impacts of the prohibition alternatives on recreation and tourism would involve reductions in future development opportunities involving roaded access and related infrastructure. These potential impacts, both positive and negative, are not quantified, and the Roadless FEIS makes no attempt to further estimate or otherwise address the economic impacts resulting from anticipated changes in recreation and tourism activity.

In its discussion of “non-commodity values” the Roadless FEIS catalogues and discusses a number of values associated with the National Forests that are not commonly traded in market transactions (FEIS, 3-265 to 3-270). These include values associated with ecosystem services arising from forest health conservation (soil and water conservation, for example), passive use values arising from the experience of solitude or beautiful scenery, and existence values associated with the desire to protect and maintain natural environments for their own sake into perpetuity. Providing quantitative measures of these values and their potential impacts under different planning alternatives is an extremely

difficult and controversial undertaking, and the Roadless FEIS addresses them in only a qualitative fashion. The general conclusion is that the prohibition alternatives will be more supportive of most non-commodity values. Other sections of the Roadless FEIS, however, provide more detailed information on the physical characteristics of the forest resources from which these values derive, and the Agency Response to Public Comments (Roadless FEIS, Vol. 3) provides extensive representation and discussion of the various values the public holds for forest ecosystems in general and the National Forests in particular.

Areas of Potential New Information or Changed Circumstances

The previous section summarized economic impact estimates in the Roadless FEIS and the techniques used to derive them. Are these estimates still valid, or has new information come to light indicating either changed circumstances or possible errors in the analysis that would cause a reassessment of trends, relative comparison of alternatives, or results outside the range of reasonable confidence one could place in these estimates?

The Roadless FEIS was published three years ago, and, owing to the scope of the planning effort, the information it presented in regard to the Tongass was necessarily broad. Consequently, there are few large and explicit discrepancies between current conditions and those described in the Roadless FEIS. Situations where trends identified in the Roadless FEIS have continued are more common. This is certainly the case with timber sector activity, where declines documented in the Roadless FEIS have become more severe in the last few years. Ongoing planning activity, particularly the publication of the Tongass Forest Plan SEIS and associated ROD in the spring of 2003 (2003 SEIS), is another source of potentially new information or changed circumstances. In this case, however, it is the planning environment, including land use designations and annual sale quantities, and not the nature of the socioeconomic environment that has changed.

Timber Sector Declines in Southeast Alaska

According to the Roadless FEIS, 146 MMBF of federal timber was harvested from the Tongass in 1999, and an additional 239 MMBF was harvested from Alaska Native Corporations. When other minor producers are included, Southeast Alaskan timber harvests in 1999 totaled 344 MMBF, a 60 percent decline from the 990 MMBF harvested in 1990, a peak year. In 2002, only two years later, harvests in the region had fallen by another 46 percent to around 211 MMBF, with Forest Service timber accounting for just 34 MMBF of that total. Timber industry employment has experienced similar declines, falling from a peak of 3,543 employees working in logging, sawmills and pulp mills in 1990 to 450 employees in 2002. Specific and recent examples of the hardships facing the timber sector in Southeast Alaska are evident in the as yet unsuccessful

struggle to establish the Gateway Forest Products veneer mill in Ketchikan as a going concern and in the current bankruptcy status of Silver Bay Logging Inc.

While the increased hardships of the timber industry and its host communities can be an important backdrop for considering planning decisions, they do not necessarily invalidate the impact estimates presented in the Roadless FEIS. The Roadless FEIS uses the relative difference in expected harvest between alternatives to calculate its impacts and, in fact, makes no reference to the absolute level of timber employment in 1999 or any other year. As long as the choice of a prohibition alternative results in a reduction in federal harvest of approximately 75 MMBF and the parameters translating this volume into employment and income hold, then the Roadless FEIS impact calculations are valid regardless of changes in total sector employment. Several factors need to be considered to determine whether this is actually the case. These include market demand, timber inventories, expected harvests, and the parameters used to derive the employment and income estimates associated with these harvests.

Benchmark harvest levels under the non-prohibition alternative were based on a market demand estimate of 124 MMBF per year. The estimates used to derive this figure are documented in a 1997 report by Forest Service Economists predicting Tongass National Forest timber demand through 2010 (Brooks and Haynes, *Timber Products Output and Timber Harvests in Alaska: Projections for 1997-2010*, 1997), and they rely upon such factors as current processing capacity in the region and the market share of Southeast Alaskan products in their principal markets. Three different market scenarios (low, medium, and high) are considered, and the 124 MMBF represents the average value of the low market scenario estimates for the years 2001 through 2010. Comparable estimates for the medium and high scenarios are 151 and 184 MMBF per year, respectively.

Though the 1999 harvest level, at 146 MMBF, more closely approximates the medium market demand scenario, the Roadless FEIS used the low market for its benchmark analysis, and recent developments support this assumption. If anything, the low market scenario appears optimistic in light of the 34 MMBF harvested in 2002 and the 51 MMBF harvested in 2003. In that same year, 71 MMBF was offered for sale by the Forest Service and only 25 MMBF was purchased.

The last three years, however, represent a significant aberration from historical harvest levels. The 1980-2002 average harvest is 269 MMBF, and in no year prior to 2001 did the harvest level fall below 100 MMBF. As recently as 1995, Tongass National Forest harvests were in excess of 200 MMBF, and the average harvest over the 1995-2002 time period was approximately 120 MMBF. In light of this historical performance, the 124 MMBF low market estimate is not an unreasonable expectation for the coming decade, particularly if the current slump is merely a cyclical downturn. Of course market conditions may continue to

deteriorate, and current low or even lower levels of harvest may become the norm. But in this case both the “negative” impacts of roading in roadless areas as well as the “positive” impacts related to employment would be reduced in the Tongass Exempt Alternative.

The Roadless FEIS estimated that the prohibition of roading and timber harvest in inventoried roadless areas would result in an approximate loss of 75 MMBF in annual sale volume. The 2003 SEIS also calculates expected sale volume declines from a similar prohibition, and its analysis can be used as a check against the Roadless FEIS estimates. The 2003 SEIS benchmark (or “no action”) alternative, however, reverts back to the 1997 Tongass Forest Plan ROD rather than using the 1999 ROD, which was used by the Roadless FEIS and has since been vacated. Consequently, the base timber inventory has changed between the Roadless FEIS and 2003 SEIS. Nonetheless, the expected sale volume under the prohibition alternatives is roughly the same in both analyses.

The 2003 SEIS Alternative 8 designates inventoried roadless areas as potential wilderness and thus most closely approximates the Roadless FEIS prohibition alternatives. Under Alternative 8, the 2003 SEIS estimates an annual allowable sale quantity of 96 MMBF, 79 MMBF of which is classified as NIC 1 volume (see 2003 SEIS Table 3.3-4). The NIC 1 designation applies to timber stands with normal operability and accessibility characteristics, and this volume is identified as the pool from which economically valid timber sales can most likely be drawn. Consequently, 79 MMBF is identified in the 2003 SEIS as a reasonable expectation for sale offerings under Alternative 8. The Roadless FEIS, on the other hand, predicted annual sale offerings of between 73 MMBF and 68 MMBF for the Tongass Not Exempt Alternatives. (The Roadless FEIS, however, did not provide a distinction between NIC I volume and other volume).

The Roadless FEIS predicted that not all the volume offered under the Tongass Not Exempt Alternative would be harvested, resulting in an estimate of about 50 MMBF sold and harvested per year over the planning period. The 2003 SEIS, when calculating its employment estimates, assumes “full implementation,” meaning that all the offered NIC I volume will be sold and harvested. The 2003 SEIS further notes, however, that this is an upper bound and actual harvest volumes (and their related employment) will likely be lower. It goes on to state, based on historical performance, that “realistically, approximately 70 percent of the total volume allowed by the NIC I ceiling can be expected to be sold and harvested under any of the alternatives” (Tongass Forest Plan FEIS, 3-287). Applying this 70 percent ratio to the 79 MMBF NIC I volume available under alternative 8 in the 2003 SEIS yields an “expected” harvest of approximately 55 MMBF.

Owing to the lack of detail presented in the Roadless FEIS and the fact that different analysis conventions were used in the Roadless FEIS and the SEIS, it is difficult to precisely compare the estimated harvests presented under the

prohibition alternatives in these two documents. In particular, while the Roadless FEIS presents expected harvest levels that incorporate anticipated reductions resulting from unsold timber, the 2003 SEIS bases its estimates on “full implementation” and harvest of NIC I volume. Nonetheless, by applying the 70 percent harvest to offer ratio presented in the 2003 SEIS, an estimate quite close to that presented in the Roadless FEIS can be derived from the SEIS inventory. Predicted harvest volumes in the Roadless FEIS and 2003 SEIS under harvest prohibition in roadless areas are thus roughly consistent, and the SEIS does not present significant new information in regard to this key estimate.

Harvest and employment estimates for non-prohibition alternatives in the Roadless FEIS and 2003 SEIS differ more broadly. This is because, while the Roadless FEIS used the 124 MMBF low-market demand scenario for its expected harvest, the 2003 SEIS used available NIC I volume (212 MMBF in the no-action alternative), noting that this was an upper bound. The SEIS provided additional discussion of market demand, choosing the mid-market demand scenario of around 150 MMBF from the 1997 study by Brooks and Haynes. However, the 2003 SEIS did not present specific evidence that the low market scenario used in the Roadless FEIS was not appropriate or should be abandoned.

Employment

The Roadless FEIS employment impact estimates imply a combined ratio of approximately 5 jobs/MMBF in the logging and sawmilling sectors. The Tongass Forest Plan FEIS (1997) and SEIS (2003) use 1.95 logging jobs/MMBF and 3.33 sawmill jobs/MMBF as ratios in calculating their employment impacts, resulting in a combined 5.28 jobs generated for every MMBF harvested and sawn. These ratios are based on historical relationships between production volumes and employment, and they have remained relatively stable over time. Owing to sharp declines in harvests and lumber production in the last couple of years, the ratio of jobs to volume has recently increased, but this is likely a temporary phenomenon as employment usually takes several years to adjust to abrupt changes in production. Barring major changes in production technology, there is no reason to expect that these ratios will change substantially in the long-term.

The Roadless FEIS assumes that all Tongass timber harvested will also be sawn in local mills. This ignores the fact that a proportion of the cedar harvest will be exported in raw log form. According to the SEIS, however, cedar is predicted to account for only about 12 percent of total sale volume, and the reduction in sawmill employment estimated in the Roadless FEIS would be relatively small. Sawmill utilization of lower valued “utility” volume is also an issue. These considerations, however, extend well beyond the level of detail found in the Roadless FEIS and would not substantially affect the general conclusions of the impact estimations presented in that document.

Additional coefficients are used to estimate income and spin-off (indirect and induced) employment impacts in both the Roadless FEIS and 2003 SEIS. Income is derived using an average yearly earnings figure for logging and sawmill sectors, and the spin-off effects are estimated using impact multipliers derived from the IMPLAN economic impact estimation model (Forest Service Inventory and Monitoring Institute). These coefficients are similar in both documents, and the average earnings figure is consistent with Alaska Department of Labor statistics for 2000 (Alaska Department of Labor 2000). While the use of impact multipliers of the type generated by IMPLAN has been called into question by some recent studies (Robertson in press, for example), they remain a widely used tool in impact estimation. In the past, other studies looking at economic impacts in Southeast Alaska have used multipliers of similar magnitude (McDowell Group, *Economic Impacts of Declining Tongass Timber Harvests*, 2000).

The Roadless FEIS includes estimates of impacts to Forest Service employment from reductions in the timber sale program. These estimates, however, are mentioned only in the text specific to the Tongass, and they are not incorporated into core employment impact estimates presented in the tables summarizing economic impact. There is no reason to expect that the scope of these impacts will have changed significantly over the last few years.

Recreation and Tourism

The Roadless FEIS predicts that the prohibition alternatives would maintain the supply of remote and semi-remote recreational opportunities on the Tongass while restricting future development of tourism and recreation infrastructure in inventoried Roadless areas. These conclusions are briefly presented in a qualitative fashion and no numerical estimates of expected recreation impacts specific to the Tongass are included in the document.

Recent measures of recreation and tourism activity in Southeast Alaska indicate that cruise ship visits (the primary vehicle for tourist visitation in the region) have continued to follow the steep growth trend experienced throughout the 1990s, but that visits by independent travelers have leveled off somewhat (Kruger, *Social Science Contributions to Tongass Land Management Planning* [In prep] and Schroeder, Cerveney, and Robertson, *Tourism Growth in Southeast Alaska: Trends, Projections, and Issues*, [In prep.]). Cruise ships routes are generally confined to specific corridors along which harvests are either restricted or subject to constraints designed to minimize their visual impact. Independent travelers range more widely throughout the Forest and often engage in guided recreation activities such as sport-fishing. Current developments in recreation and tourism use provide no indication that the impacts predicted in the Roadless FEIS should be revised. Likewise, while the 2003 SEIS presents much more extensive analysis of recreation and tourism, as well as impacts to scenery, its conclusions are generally consistent with the Roadless FEIS.

Non-Market Values

Non-market values, particularly those associated with wilderness and the preservation of wild places, were a major consideration in the original formulation of the roadless rule. They are not, however, directly measured in any quantified sense in the Roadless FEIS. Rather, incorporation of public comment and descriptions of the biophysical resources upon which these values rely are the primary methods through which non-market values were included in the Roadless FEIS and its associated planning process. There is no evidence that public opinion related to these values has changed substantially in the last few years.

Economic Growth

Recent data indicate that economic growth in Southeast Alaska has stalled in the last few years and that the overall health of the region's economy may have worsened since the publication of the Roadless FEIS. The Tongass Economics Specialist Report prepared in conjunction with the Roadless FEIS, for example, cites an Alaska Department of Labor prediction of 1 percent annual employment growth rate for the region. This is in contrast to actual declines of about 1 percent experienced over the 2002-2003 period (Alaska Department of Labor 2003). The extent to which these developments are the result of Forest Service policy as opposed to regional and national economic trends is open to debate, and the Alaska Department of Labor continues to foresee employment growth of 1 percent for the region in the coming decade (Alaska Department of Labor 2002). In any case, The Roadless FEIS generally confines itself to estimating relative impacts between planning alternatives and only briefly considers the condition of the regional economy as a whole. The recent deterioration of local economic conditions does not directly affect the nature or magnitude of the economic impacts estimated in the Roadless FEIS.

Public Comments

A review of public comments on the July 15, 2003 proposed rule shows opinions both for and against the exemption of the TNF from the Roadless Rule on economic grounds. Some comments state that it makes little sense to attempt to bolster or rebuild a timber industry in decline because of what they argue are global economic forces outside the influence of Forest Service policy. They assert that the growing sectors of Southeast Alaska's economy, such as tourism, recreation, commercial fishing and environmental restoration, are more likely to maintain jobs and local economies, and this is where federal efforts should be concentrated. Non-market values of the sort discussed elsewhere in this report are also often mentioned in comments of this vein.

Other comments on the economic effects caused by the roadless rule cite the figures in the Roadless FEIS on the number of jobs and income lost due to the implementation of the roadless rule and point out the dependency of local economies on natural resource development on the Tongass National Forest.

Many of these comments also stress the importance of federal land management in a state where over 95% of the land is in federal hands, and argue that policies such as the roadless rule will severely restrict economic development.

These comments do not speak directly to the question of whether new information has emerged since the finalization of the Roadless FEIS, and they are quite similar to those regarding economics made at that time (see Roadless FEIS Vol. 3, 8 – 16 for general comments and 193 – 195 for comments specific to the Tongass). Therefore new information or new circumstances have not been presented in these comments.

Several comments on the July 15, 2003 proposed rule have focused specifically on changes in market conditions in the last few years, arguing that they indicate a significantly changed planning environment. As discussed elsewhere in this report, however, the current downturn is quite recent and may merely be a cyclical phenomenon subject to reversal. The 124 MMBF low market demand scenario used in the Roadless FEIS is still a reasonable prediction of an as yet unknowable future. Other comments have specifically mentioned increasing timber inventories resulting from the decision to vacate the 1999 ROD used in the Roadless FEIS and readopt the 1997 Tongass Forest Plan. This change was addressed in this report through a comparison of harvest predictions under prohibition alternatives in the Roadless FEIS and 2003 SEIS (which used the timber inventory stipulated in 1997 ROD). While the harvest volumes available under Alternative 8 in the SEIS were higher than those in the Tongass Not Exempt Alternative in the Roadless FEIS, this difference was found to be only between 5 - 10 MMBF when falldown between volumes offered and those harvested is taken into account. This difference is relatively insignificant, especially when considering the overall uncertainty associated with predicting future harvest volumes and their resulting employment and income.

Conclusion

The economic impact analysis provided in the Roadless FEIS in no way approaches the detail found in the more recent 2003 SEIS, but the information found in these two documents is reasonably consistent. The predicted differences in timber harvests between roadless rule planning alternatives remain reasonable and can be supported under the more recent and detailed examination of timber inventory in the 2003 SEIS, and there is no indication that coefficients translating these harvests into employment and earnings estimates need to be revised. Recent harvest levels fall well below the benchmark demand estimate used to evaluate the Tongass Exempt Alternative in the Roadless FEIS, but the benchmark is consistent with historical performance, and it is yet unclear whether the current downturn is simply a cyclical slump or representative of more lasting structural changes. Additional concerns regarding recreation and non-market values are addressed in a qualitative fashion in the Roadless FEIS. There is no evidence that circumstances related to these issues have changed considerably in the last few years or that the discussion in the Roadless FEIS is

otherwise in error. Economic conditions in Southeast Alaska have deteriorated somewhat in relation to those assumed in the Roadless FEIS, but the downturn may only be temporary and in any case should not affect the employment and earnings impacts estimated in the Roadless FEIS. The final conclusion is that no new information has come to light in the last few years that would indicate the need to revise the economic impact predictions found in the Roadless FEIS.

B. Subsistence:

Introduction

Subsistence is important to the economy, culture, and health of rural families and communities in Alaska. Rural Alaska residents have subsistence rights on Federal lands by Federal law where subsistence uses of fish and land mammals are given priority over commercial fishing and recreational fishing and hunting. This means that when the harvestable portion of a fish stock or game population is not sufficient for all public uses, subsistence uses are restricted last by regulation.

Southeast Alaska is largely unroaded and rural communities exhibit a high level of reliance on air and water transportation to support the subsistence lifestyle. Participation in subsistence activities helps keep alive traditions and customs, maintains community and family ties, supplements individual and family income, and provides a major source of traditional food.

Subsistence is a topic that has been thoroughly analyzed by the Forest Service in its efforts to implement the provisions of the Tongass Forest Plan and ANILCA (Alaska National Interest Lands Conservation Act). The Tongass Forest Plan's goals and objectives for subsistence are to provide for the continuation of subsistence uses and resources by all rural Alaskans. Forest managers evaluate and consider the needs of subsistence users in making decisions. In addition, the Forest Plan's old growth conservation strategy and standards and guidelines provide protection measures for fish and game resources used for subsistence activities.

The question in this analysis is whether any new information or circumstances since the publication of the Roadless FEIS in November 2000 constitute significant changes in projected impacts on subsistence that are relevant to environmental concerns about the decision to be made on the July 15, 2003 proposed rule. That decision is whether to exempt the Tongass National Forest from the prohibitions of the roadless rule or to select another of the alternatives considered in the Roadless FEIS.

The Southeast Alaska Federal Subsistence Regional Advisory Council in their comments on the Tongass Supplemental EIS for Roadless Area Evaluation for Wilderness Recommendations (2003 SEIS) expressed different preferences

regarding future management options for roadless areas. Some Council members were interested in additional protection for certain roadless areas important for subsistence. Other Council members did not want additional wilderness protection for roadless areas near their communities. Although these preferences are noted, they do not bear on the analyses of this report which are focused on new information or changed circumstances.

Analysis of Roadless FEIS

The 2000 Roadless FEIS was reviewed with particular emphasis on sections in Vol. 1 Chapter 3 that address subsistence on the Tongass National Forest (Roadless FEIS Vol. 1, 3-374 to 391). Additional review was made of the specialist reports accompanying the Roadless FEIS, specifically those addressing subsistence (Socioeconomic Specialist Report, especially pages 24 to 29) and the subsistence impacts disclosed in the 1997 Tongass Forest Plan Final EIS (1997 FEIS).

Under the Tongass Exempt Alternative, the Roadless FEIS (3-380) states that: the projected risk to ecosystem health would remain unchanged; human uses would continue at levels projected in Tongass Forest Plan and FEIS; and social and economic values would be affected as described within the 1997 Tongass Forest Plan and FEIS. As previously discussed in section E (New Circumstances and Information), the primary difference between the 1997 and 1999 RODs relating to subsistence was the 100 and 200 year timber harvest rotations. This was not found to result in significantly different environmental effects relevant to selecting the Tongass Exempt Alternative from the Roadless FEIS. This and other information considered is discussed below.

Abundance and Distribution

The subsistence analysis for the 1997 Tongass Forest Plan FEIS (3-210 to 229) found the primary subsistence resource with potential to be significantly affected under the selected alternative was Sitka black-tailed deer, due to their association with old-growth habitat, the primary habitat type affected by forest management activities such as harvest and road construction. The 1997 Tongass Forest Plan Record of Decision (1997 ROD) determined that the selected alternative had a relatively high assurance that habitat needed for the long term viability of all wildlife species would be maintained and commercial, sport, and subsistence uses would be sustained. The 1997 ROD noted there may be a restriction on subsistence uses of deer in some areas of the forest due to the effects projects may have on the abundance and distribution of deer and the competition among hunters. Under the Forest Plan, adverse impacts on subsistence activities and resources are minimized through protection measures included in the old growth conservation strategy and standards and guidelines for subsistence, riparian areas, fish, wildlife, old growth habitat and beach and estuary fringe.

Impact of road construction and timber harvest on habitat change, and consequently the game species associated with those habitats, will depend on species needs and the extent, duration, timing, and intensity of timber harvest and road construction activity. For species that are disturbed or displaced by ground disturbing activities, encounter rates could decline, potentially reducing hunting success rates. Increases in hunting success would be beneficial for subsistence hunters. Declines in hunting success would decrease per capita game harvest by subsistence hunters, with negative consequences for the health, economy, and culture of Alaska Natives in particular (Roadless FEIS Vol. 1, 3-286).

The majority of subsistence and game species on the Tongass National Forest, such as Sitka black-tailed deer, marten, wolf, brown bear, salmon, trout, and steelhead are integrally linked to habitat qualities including intact old growth and riparian habitats often found in inventoried roadless areas (Roadless FEIS Vol. 1, 3-374).

The Roadless FEIS (3-380) states the 1999 Tongass Forest Plan ROD is comparable to other Tongass Forest Plan FEIS alternatives ranked as having lower risk ratings for species. As noted in the 1997 Tongass Forest Plan ROD (at 15), Alternative 11, the alternative selected in the 1997 ROD with some minor modifications is included in the group of alternatives that have a lower risk for species of concern.

Within the Tongass there are several areas, principally Prince of Wales Island and Northeast Chichagof Island, which have been intensively managed for timber production. As a result there has been a marked decline in the amount of productive old-growth forest, raising concern over habitat loss or increased mortality rates due to increased human access. Forest fragmentation may increase in the areas where harvest is scheduled and these may include many areas that are adjacent to existing heavily fragmented areas. Thus there is a higher likelihood for less desirable species viability outcomes under the Tongass Exempt alternative (Roadless FEIS Vol. 1, 3-380).

The Roadless FEIS, page 3-391, notes that while incremental loss of habitat and species abundance in various locations on the Tongass is expected to occur under the Tongass Exempt alternative, it did not pose what is considered an unacceptable risk to biodiversity, including fish and wildlife species and their habitats.

Access and Competition

The Roadless FEIS projected the average annual amount of road construction in inventoried roadless areas from 0 miles under the Tongass Prohibition alternatives to 58 miles under the Tongass Exempt alternative. The Roadless FEIS estimated the average timber harvest in inventoried roadless areas to

range from 0 acres per year under the Tongass Prohibition alternatives to 2,800 acres per year under the Tongass Exempt alternative.

The Roadless FEIS (Vol. 1, 3-373 and 3-286) references a study that found the presence of roads associated with reduced subsistence productivity. On the Tongass, decreased productivity may be associated with the settlement of people along the roadways in response to timber-related employment. This results in competition for subsistence resources, forcing people to either use roads for subsistence hunting and fishing or to conduct activities in non-traditional areas. Roads built in rural areas also draw urban residents who use them to gain access to new areas for recreational hunting and fishing. For example, residents of Ketchikan use roads on Prince of Wales Island for deer hunting. This increases competition between recreational and subsistence users, reducing subsistence harvests (Roadless FEIS Vol. 1, 3-286). Tribes expressed different viewpoints about whether road construction in inventoried roadless areas would be desirable with regard to subsistence hunting and fishing (Roadless FEIS Vol. 1, 3-284).

The 1997 Tongass Forest Plan FEIS found communities having new road access to previously under-utilized subsistence areas have capitalized on the opportunity to expand their range provided by the road systems. As a result of new road construction new use patterns are likely to develop around some communities. Such changes are not likely to lead to a significant possibility of a significant restriction of subsistence access to the resources.

The Tongass Forest Plan FEIS found increasing competition for some subsistence resources by non-rural and rural residents could result in a significant possibility of a significant restriction of subsistence use, most likely on Chichagof, Baranof, and/or Prince of Wales Islands, where competition for deer was already heavy and habitat capability has been reduced as a result of timber harvest.

Areas of Potential New Information or Changed Circumstances

The major focus of the analyses relating to subsistence in the Roadless FEIS and the 1997 Tongass Forest Plan FEIS lies in the estimation of impacts on abundance and distribution of subsistence resources and effects of access and competition on subsistence activities. In addressing these issues, focus is placed on current conditions in Southeast Alaska.

Two questions regarding potential for new information or changed circumstances were identified for investigation in this report: (1) would subsistence activities or resources on the Tongass be affected significantly differently under the July 15, 2003 proposed rule than projected under the Tongass Exempt Alternative in the Roadless FEIS, and (2) have subsistence activities or resources in the Tongass substantially changed since the Roadless FEIS was completed?

The analysis of the first question focused largely on the extended timber harvest rotation from 100 to 200 years that was one of the changes in the 1999 Tongass Forest Plan ROD that has since been vacated. The 200-year rotation was to be applied in 42 selected Wildlife Analysis Areas (WAAs), broadly distributed across the Forest to reduce the potential for deer habitat capability decline. The intent was to provide greater assurance of healthy deer populations that would be capable of supporting subsistence needs (1999 ROD, 23).

Tongass monitoring results from 2001 and 2002 indicate that the effects of management activities on subsistence are consistent with the effects analysis in the 1997 Forest Plan FEIS.

Recent reports have examined current subsistence conditions (Kruger, *Social Science Contributions to Tongass Land Management Planning* [in prep]; Mazza, *Hunter Demand for Deer on Prince of Wales Island, Alaska: An Analysis of Influencing Factors*, 2003; Paige, *Subsistence Harvest and Use of Salmon and Selected Non-Salmon Species*, 2002; and Southeast Alaska Federal Subsistence Regional Advisory Council, *Annual Report*, 2003). Those analyses are instrumental in understanding the nature of subsistence needs, responses to management activities, and an analysis of whether new information changes the assumptions and trends in the Roadless FEIS. All of this information suggests that the environmental effects of implementing the 1997 Forest Plan are consistent with the effects analysis of the 1997 Tongass Forest Plan FEIS, and within the range of effects projected in the Roadless FEIS.

Abundance and Distribution

The 2002 Tongass National Forest Monitoring and Evaluation Report notes if the amount or intensity of timber harvest is less than assumed in the Forest Plan, the potential effects on biodiversity would be favorable. Since monitoring indicates the amount of timber harvest is less than what was projected in the Forest Plan, therefore, effects on biodiversity, including abundance and distribution of fish and wildlife habitat, are well within the projections of the 1997 Tongass Forest Plan FEIS and Roadless FEIS.

Monitoring results indicate the five biogeographic provinces identified in the Forest Plan as having a higher risk of not maintaining old growth associated viable populations (including north Prince of Wales and eastern Chichagof islands) all exceeded the minimum recommendation for existing productive old growth by 33 to 108 percent. Monitoring also reports adjustments to old growth land use designations during project analysis have resulted in a net increase of roughly 5,000 acres of productive old growth being included in old growth reserves. For riparian habitats, monitoring indicates best management practices are being fully implemented relative to riparian and stream areas. This information reinforces the view that environmental effects relating to subsistence

of implementing the 1997 Tongass Forest Plan are within the range of effects projected by the 1997 Tongass Forest Plan FEIS and the Roadless FEIS.

Access and Competition

While there has been overall a small increase in population in Southeast Alaska, the growth is primarily focused in the urban population in Juneau. The population of Ketchikan has decreased over the past 2 years and there are trends of declining populations in some of the smaller communities. Those communities include: Wrangell, Petersburg, Haines Borough, Metlakatla, Hydaburg, Craig/Klawock, Kake, Angoon, and Klukwan (Calvin, *Southeast Alaska Economic Overview*, 2003). There have been no dramatic changes in Southeast Alaska demographics, which remain consistent with the general trends and projections in the Roadless FEIS. Subsistence demand is assumed to increase proportionate to the overall increase in population.

The 2002 Tongass National Forest Monitoring and Evaluation Report notes less than half the annual harvest and road building projected to occur under the 1997 Tongass Forest Plan FEIS has occurred in the first 5 years of plan implementation; therefore, the magnitude of potential impacts from road construction and harvest on access and competition has been less than those forecast in the Forest Plan.

Specifically, from 2001 through mid-2003, an average of 965 acres of timber harvest per year occurred in inventoried roadless areas and an average of 20 miles of road construction per year occurred in inventoried roadless areas. Therefore, the effects of road construction and timber harvest in inventoried roadless areas on subsistence uses and resources are considered well within the range projected in the Roadless FEIS and 1997 Tongass Forest Plan FEIS. Accordingly the reduction in deer habitat capability is likely to be less than was estimated in the 1997 Tongass Forest Plan FEIS and not significantly different under the 1997 Plan with a 100 year rotation than the 1999 ROD with a 200 year rotation.

Consistent with the Roadless FEIS, the 2003 Supplemental EIS for Roadless Area Evaluation (2003 SEIS) recognized road building as an important agent of change in Southeast Alaska. Road networks provide greater access to areas previously unconnected and can affect subsistence both positively and negatively, by providing access, dispersing hunting and fishing pressure, and creating the potential for increased competition. The 2003 SEIS found that while road systems tend to bring more people into an area, they also give subsistence hunters access to previously remote regions, and provide greater opportunity for subsistence hunters.

The 2003 SEIS noted competition for subsistence resources is likely to increase as long as Southeast Alaska population grows and additional access is created. The Inter-Island Ferry Authority in 2002 took over daily ferry service between

Ketchikan and Hollis on Prince of Wales Island from the Alaska Marine Highway and expects to begin service between Coffman Cove and Wrangell/Petersburg in 2005/2006. That improved access could both make more areas accessible for hunting and fishing, as well as increase competition for fish and wildlife resources. To the extent that these factors affect subsistence uses of deer, those effects would not be substantially different under the 1997 Forest Plan than under the 1999 ROD.

Public Comments

During the public comment period on the July 15, 2003 proposed rule to exempt the Tongass from the prohibitions in the roadless rule, some respondents referenced a statement in the Roadless FEIS that associated roads and harvest with reduced subsistence activities. Other comments noted Tongass roadless areas are of particular importance to subsistence users. Because the comments on subsistence are similar to those addressed in the Roadless FEIS (Vol. 3, 190 to 195), they do not constitute new information or changed circumstances regarding subsistence.

Conclusion

In general, the Roadless FEIS assumed current trends in subsistence activities would continue and availability of subsistence resources would continue as projected in the 1997 Tongass Forest Plan FEIS. Nothing in the information examined in this review or in public comments indicates different circumstances exist today.

Some limited changes have occurred in Southeast Alaska in the last 3 years related to subsistence, including new regulations restricting non-federally qualified users during a portion of the deer hunting season on Prince of Wales Island and increased opportunities for federally qualified users in Unit 1A for moose hunting. These changes do not constitute significant new information in regard to the impact estimations provided in the Roadless FEIS because the analysis in the 1997 Tongass Forest Plan FEIS disclosed that implementation of the Tongass Forest Plan may result in a significant restriction to subsistence use of deer in some specific areas. While reasonable steps were taken in the 1997 ROD to minimize impacts upon subsistence, it is not possible to eliminate impacts entirely in these areas. The Roadless FEIS only discusses subsistence effects at a broad level, and refers to the effects analysis in the 1997 Forest Plan FEIS (Roadless FEIS Vol. 1, 3-380).

The conclusion is that no new information or changed circumstances have come to light in the last few years that would indicate the need to revise the subsistence impact predictions found in the Roadless FEIS and that the impacts of the proposed change in the roadless rule to exempt the Tongass National Forest have been appropriately and adequately disclosed in the Roadless FEIS. New information related to subsistence uses and resources in Southeast Alaska is within the trends and projections of the Roadless FEIS and 1997 Tongass

Forest Plan FEIS and no correction, supplement or revision to the Roadless FEIS is considered necessary, relevant to the decision to be made on the proposal to select the Tongass exempt alternative from the Roadless FEIS.

C. Transportation Development:

Introduction

The environmental consequences of road construction in undeveloped areas were the principal issues that led to the roadless rule. As a consequence the resultant benefits of not building roads in roadless areas were a focus of analysis for the roadless rule.

The curtailment of road construction, however, has consequences other than beneficial physical and biological components of the environment. Social and economic implications can also result which can be viewed as both beneficial and adverse. The prohibitions against road building imposed by the roadless rule indirectly have social and economic consequences discussed elsewhere in this report.

This section more specifically addresses proposed major road construction within the Tongass National Forest and whether these proposals can be considered new information that presents a seriously different picture about the effects of road construction than was disclosed in the Roadless FEIS.

Analysis of Roadless FEIS

Most of the Roadless FEIS and associated specialist reports address roads associated with future timber sales within inventoried roadless areas. Affects associated with these roads are addressed in the various resources.

The Roadless FEIS (Vol. 1, 3-33, 3-68, 3-187) addresses the Cooper Landing road proposal on the Chugach National Forest, but did not specifically address any Tongass roads. However, in the Effects of Social and Economic Mitigation on the Tongass National Forest section in the Roadless FEIS (Vol. 1, 3-387 to 3-388), potential State Highway road corridors as discussed in the 1997 Forest Plan and Final EIS are discussed.

The Roadless FEIS concludes that none of the road corridors included in the 1997 Forest Plan documents have received serious local or State support. The Roadless FEIS goes on to indicate the Secretary could approve State Highway transportation projects if they are in the public interest or consistent with the uses for which the land is reserved. This mitigation measure became part of the

roadless rule and also included that the Secretary of Agriculture must determine no other reasonable and prudent alternatives exist. (66 FR 3272).

The National Forest Roads Specialist Report for the Roadless FEIS includes a table that identifies a variety of road projects in Region 10 as an estimate of potential projects affected by the roadless rule in a time period of 2000 to 2004. These include access for private lands, minerals, oil and gas, recreation, State Highways, and others.

Areas of Potential New Information or Changed Circumstances

The 1997 and 1999 Forest Plan RODs address the long-term transportation needs of Southeast Alaska. The Forest Plan anticipated these long-term needs and created a Transportation and Utility System Land Use Designation (LUD) that recognized these linear corridors. This LUD was assigned to a number of the more obvious corridors across the Tongass based on the best information available at that time. In recognition that these corridors, both in location and design, will likely change through time in response to on-the-ground needs, new technologies, funding, political interests, etc., the LUD is not to be applied to the lands they traverse until an actual proposal is made and approved.

The Roadless FEIS generally looked at the situation in relation to long-term transportation needs for Southeast Alaska. For example, it discusses the Juneau to Skagway road connection which was in a draft EIS stage of planning. The State stopped completion of that EIS and provided for additional ferry services to address the access need. The State has now re-opened the EIS process and is actively pursuing road access to Skagway or Haines or both. The State and others are also actively pursuing various other road projects throughout SE Alaska.

In the document *Southeast Alaska Proposed Public Road and Ferry Projects* (March 2003) it is noted that transportation in and among remote, sparsely populated communities, many of which are on islands, or isolated from the continental road system, is an impediment to economic development. This document was created to assist in identifying potential transportation infrastructure to improve the economic climate in the region. Many of the projects described are included in the integrated, multi-modal transportation system called for in the Southeast Alaska Transportation Plan (SATP). Other projects are in addition to, or propose an accelerated schedule for projects identified in the SATP with the intent of lowering the Alaska Marine Highway System ferry subsidy while improving service between communities and enhancing economic development.

An ongoing example of project implementation for the access needs of Southeast Alaska is the transition of ferry access to Prince of Wales from the Alaska Marine Highway System to the Inter-Island Ferry Authority (IFA). The Hollis Ferry has already been replaced by an IFA ferry and an additional ferry is expected to be online with access to Coffman Cove in 2005/2006. Additionally, much of the

mainline roads that connect Hollis, Hydaburg, Craig and Klawock, Thorne Bay and Coffman Cove have been updated and paved, or in the process of such. The Prince of Wales example will not directly affect inventoried roadless areas, but other similar projects across the Tongass most likely would affect certain ones.

A key note is that the issues and opportunities associated with improved access as addressed in the Forest Plan has not really changed through time. It is also of note that the discussions are more refined now than then and that changes in technology (like fast ferries) are more integrated into the proposals.

Public Comments

People expressed opposite views on the July 15, 2003 proposed rule to exempt the Tongass from the prohibitions in the roadless rule. Their concerns are about the potential environmental effects caused by roads and the unique situation in Southeast Alaska where the road infrastructure is very limited, especially compared to the lower 48 states. Those who request the prohibition of road construction in roadless areas assert that roads and road construction cause harmful effects, fragmenting wildlife habitat and threatening the quality of fish habitat. They are also concerned about altering forest ecosystems and the potential introduction of invasive plant species. Some people noted that the roadless rule allows construction of Federal Aid Highway projects and roads needed to protect public health and safety, and assert there are not significant limits on the ability of communities to develop road and utility connections. They also note that the agency has a maintenance backlog on existing roads and maintain that road construction and timber harvest should not be subsidized with taxpayer money.

Other people, including local communities and elected officials, said that the roadless rule would impact their ability to grow and develop responsibly by severely restricting the road building opportunities. They note that because the Tongass National Forest takes up 80 percent of Southeast Alaska, most communities depend on roaded access to the forest and its resources for their very survival. They cite many access needs to roadless areas including: recreation opportunities; tourism; timber harvesting; mineral extraction; and utility transmission corridors. They also say that the revised Tongass Forest Plan has adequate protection in terms of land allocations and standards and guidelines that can allow roads to be built where needed for a variety of purposes.

These comments are similar to those regarding roads and access that are summarized in the Final EIS for the roadless rule, volume 3 (November 2000), pages 120 – 122, and more specifically for the Tongass National Forest on pages 191 – 193, therefore new information or new circumstances have not been presented.

Conclusions

The review of the relevant information is within the trends and projections of the Roadless FEIS. The information primarily offers additional clarity or precision of existing information. Both the 1997 and 1999 Forest Plan RODs include the use of the Transportation and Utilities System LUD. The Roadless FEIS notes that these roads, if they are in the best public interest, could go forward. They would need to be authorized at the Department level rather than by the agency.

The conclusion of this report is that no new information has come to light that would alter the expectations of major roads or transportation corridors or associated economic impacts estimates in the Roadless FEIS and supported by the Forest Plan FEIS of 1997 or the 2003 SEIS.

D. Recreation:

Introduction

Current recreation conditions and activities connected with projections from the Roadless FEIS are the focus of this section. Specifically, this section explores whether recent changes in recreation demands and supply invalidate the estimated impacts used for comparing alternatives in the Roadless FEIS. Here, the emphasis is on the relative difference between alternatives rather than the absolute levels of activity and impacts predicted.

Impacts to recreation as well as economics estimation are an inexact science. Therefore, the focus of the investigation of new recreation information and changed circumstances is centered on changes in trends rather than changes in exact estimates projected by the Roadless FEIS.

Analysis of Roadless FEIS

The roadless rule was a national initiative; it consequently treats recreation impacts at a relatively broad level. The Tongass National Forest did not receive special treatment in the Roadless FEIS for recreation, or in the associated specialist reports. The analysis in the Roadless FEIS did not contain the depth and breadth of analysis found in the Tongass Forest planning efforts (1997 FEIS and 2003 SEIS). As discussed previously, when assessing new information in relation to the Roadless FEIS, the scope of the analysis for the national roadless policy is broader than the analysis for forest planning.

The Roadless FEIS was reviewed with particular emphasis on the section in Vol. 1, Chapter 3 devoted to the Tongass National Forest (3-371 to 3-392). Additional review was made of the specialist reports accompanying the Roadless FEIS, specifically those treating socioeconomics and recreation (Socioeconomic

Report, Specialist Report on Recreation and Recreation Special Uses, and Specialist Report on Scenic Quality).

Recreation activities occur along a continuum, or Recreation Opportunity Spectrum (ROS). ROS is divided into 7 classes – Primitive (P), Semi-Primitive Non-Motorized (SPNM), Semi-Primitive Motorized (SPM), Roaded Natural (RN), Roaded Modified (RM) – a Region 10 addition, Rural (R), and Urban (U).

The Roadless FEIS projected the demand for most recreation activities in the United States to continue to grow. Recreation activities associated with more developed portions of the ROS (e.g. developed camping, driving for pleasure, and visiting nature centers) tend to be more popular in terms of total participants and days of participation. (Roadless FEIS Vol. 1, 3-271). The Roadless FEIS forecast growth in recreation demand to be greater for activities that require roaded areas than for activities in more remote settings. The Roadless FEIS projects that the availability of opportunities for remote recreation activities may be a limiting factor in meeting future demand. However, given the abundance of the land base in most parts of the Interior West and Alaska, such risks to availability of land would mean relatively little decline on recreation use of remote settings, at least in the short-term.

A key characteristic of inventoried roadless areas has been their ability to supply Primitive, Semi-Primitive Non-Motorized, and Semi-Primitive Motorized settings for a wide range of dispersed recreation activities (Roadless FEIS Vol. 1, 3-213). Road construction, timber harvest, and other resource management activities in inventoried roadless areas (where land management prescriptions allow it) would reduce the supply of land available for dispersed recreation opportunities in the SPM, SPNM, and P classes (Roadless FEIS Vol. 1, 3-214).

Tongass-specific: The Roadless FEIS states that the Tongass Forest Plan FEIS (1997) “indicates that the recent rapid growth in recreation and tourism is likely to continue.”

Currently, on the Tongass, the recreation-opportunity demand is well below supply, and is expected to be met in the near future for all ROS classes except Semi-Primitive Motorized. Both the 1997 and 1999 Tongass Forest Plan Records of Decision projected that, “(T)he demand for semi-primitive motorized recreation opportunities is expected to exceed the inventoried supply due in large degree to an increasing resident population and tourism growth.” (Tongass Forest Plan ROD, 1999 at 36 and 1997 ROD, at 22).

Under the current land management plan, many land use designations allow for certain types of site-specific recreation developments that may be important to help meet some of the increasing SPM demand (Roadless FEIS Vol. 1, 3-381).

Areas of Potential New information or Changed Circumstances

The estimates in the Roadless FEIS were relatively broad for recreation impacts, owing to the imperfect science of recreation demand, supply and responses. This relatively broad estimate of recreation also results from poorly defined relationships between recreation demand, supply, and use with roadless area designations.

However, the SEIS for Wilderness recommendations (Final SEIS, Roadless Area Evaluation for Wilderness Recommendations, 2003) discussed more current recreation information. The information contained in the 2003 SEIS is the most recent source of what could be considered as potential new information of recreation impacts relative to roadless area allocations.

Since the Roadless EIS, Northern Economics recently published the results of a survey for the State of Alaska and compiled visitor trends *Secondary Arrival Report Summer 2002*. The Forest Service Pacific Northwest Research Station also has one publication in draft form, which project visitor trends into the future (Schroeder, Cervený, and Robertson, *Tourism Growth in Southeast Alaska: Trends, Projections and Issues* [in prep]).

Recreation Demand and Use

The 2003 SEIS states that visitor use is up, that statewide it has increased by 40 percent, and that within Southeast Alaska it has increased by 101 percent from 1993 to 2001 (2003 SEIS, 3-129). It also states that helicopter tours, outfitter/guides and Mendenhall Glacier Visitor Center use are all increasing. The Northern Economic publication indicates that total visitor use has increased 6 percent from 1999 to 2002. Cruise ship visitors have increased 27 percent in this same time period. Much of the tourism use on the Tongass National Forest comes from cruise ship visitors who take day trips near communities in which a ship docks, so cruise ship visitors are indicative of tourism use on the Tongass.

The Pacific Northwest Research Station (PNW) publication projects that the likely growth rate of cruise ship visitation will be between 8 and 10.5 percent.

The Tongass SEIS (2003) states the same conclusion as the Roadless FEIS about the unmet demand for Semi-Primitive Motorized (SPM) settings – that the estimated demand for the SPM setting exceeds the supply of SPM settings.

Public Comments

During the public comment period on the July 15, 2003 proposed rule to exempt the Tongass from the prohibitions in the roadless rule, some people commented that recreational pursuits are enhanced in areas where there is limited access by preserving an experience of solitude and beauty. They assert that easily accessible areas invite environmental and aesthetic damage from vehicles and this negatively impacts the recreation and tourism industry. Other comments

stated the importance of adequate access for recreational activities including access for people who are elderly or disabled and cannot recreate without the use of a vehicle. They assert that restricting road access to forest areas favors the wealthy who can afford access by helicopters, floatplanes, and other options not available to those with limited economic means. They further stated that roaded access supports tourism and local economies.

These comments are similar to those regarding recreation that are summarized in the Roadless FEIS, Vol. 3 on pages 14 and 109 – 119, and more specifically for the Tongass National Forest on pages 193 – 197, therefore new information or new circumstances have not been presented.

Conclusion

The two major trends and impacts for recreation from the Roadless FEIS are that the rapid tourism growth in southeast Alaska is likely to continue and that the demand for semi-primitive motorized settings cannot be met.

Rapid tourism growth – Both the Northern Economics publication and the draft PNW publication agree that the rapid tourism growth is likely to continue in the near term.

Unmet SPM demand –The Tongass SEIS also agrees that the demand for semi-primitive motorized settings on the Tongass will be unmet.

The most recent publication validates the trends and general conclusions and forecasts of the Roadless FEIS. Although the recent publications provide more specific estimates and quantitative information, the trends and underlying assumptions for the recreation effects analysis in the Roadless FEIS are still applicable.

E. Biodiversity:

Introduction

Biodiversity was a significant benefit listed as a reason for promulgating the roadless rule (64 FR 56306). Biodiversity, therefore, is an important issue to evaluate relative to potential new information that could have a bearing on the analysis done for the roadless rule.

Biodiversity has many physical and biological components as well as social and economic implications. However, the analysis in this section focuses on the physical and biological components as discussed in the Roadless FEIS.

Analysis of Roadless FEIS

The Roadless FEIS addressed biodiversity by looking at 10 basic components: 1) Ecoregions, 2) Fragmentation, 3) Size Considerations, 4) Elevational Distribution, 5) Terrestrial Animal Habitat and Species, 6) Aquatic Animal Habitat and Species, 7) Terrestrial and Aquatic Plant Species, 8) Threatened, Endangered, Proposed, and Sensitive Species, 9) Effects of Social and Economic Mitigation on Biodiversity, and 10) Other Indirect and Cumulative Effects on Biodiversity.

Ecoregions – This component mostly looks at the representation of conservation areas in each ecoregion and how much could be added if the roadless rule is applied to National Forest System (NFS) inventoried roadless areas. The Roadless FEIS looks at 2 measures of representation as potential thresholds, 12 percent and 25-75 percent. Table 3-26 (Vol. 1, 3-130) indicates the 2 ecoregions which contain the Tongass have conservation unit representation of 33-36 percent. When inventoried roadless areas that do not allow road construction are added, the representation increases to 59-70 percent. The Roadless FEIS figures on ecoregions are not broken out by Forest.

Fragmentation – Roadless FEIS discussions for this component are primarily addressing fragmentation resulting from decades of land developments (roads, timber harvest units, and urbanization), which have occurred primarily in the lower 48 States. The Roadless FEIS projects 304 miles of new road construction (291 miles associated with timber harvest and 13 miles for other purposes) and 593 MMBF of timber harvest for the Tongass from 2000 through 2004.

Size Considerations – This component assumes that the larger a roadless area (or combination of), the better it provides for meeting or maintaining biodiversity objectives. The Roadless FEIS assumes ecosystem processes are generally intact in larger areas and that smaller areas are important for biodiversity conservation as well. The Roadless FEIS notes that nation-wide, 24.2 million acres (almost half) of inventoried roadless areas currently have land management direction that prohibits road construction (Roadless FEIS Vol. 1, 1-15). For the Tongass specifically, approximately 84 percent of inventoried roadless areas are in land use designations which limit road construction and timber harvest activities. In addition, the Tongass has a higher percentage of inventoried roadless areas where road construction is prohibited in comparison to any other Forest Service region (Roadless FEIS Vol. 1, 3-371).

Terrestrial Animal Habitat and Species – The Roadless FEIS concludes that inventoried roadless areas often serve as biological strongholds and places of refuge for many species. It further concludes that inventoried roadless areas, especially in the lower 48 States, will increase in value due to ongoing cumulative effects in adjacent lands. Old growth forests are mentioned as a common component of inventoried roadless areas. Potential effects are measured in MMBF of timber harvest through 2004 and miles of new roads constructed through 2004. For the Tongass, 593 MMBF and 304 miles of road are projected.

These developments would likely adversely affect fragmentation and connectivity of the landscape, increase edge effects across the landscape, reduce habitat suitability and effectiveness, adversely affect late successional habitats/reduce old growth habitats, and adversely affect game species. The Roadless FEIS (Vol. 1, 3-380) notes that the 1997 Tongass Forest Plan FEIS concludes that permanent gaps in historic ranges for species are not likely to occur.

Aquatic Animal Habitat and Species – The Roadless FEIS notes that undisturbed inventoried roadless areas protect stream channel characteristics compared to roaded areas. Characteristics that influence habitat quality for aquatic species include channel and floodplain configuration, amount of fine sediment in stream substrate, riparian condition, amount and distribution of woody debris, streamflow, water quality, and temperature regime. Most potential adverse effects are related to projected roads and timber harvest. The Roadless FEIS also notes that site-specific projects would address potential effects on a case-by-case basis, including applicable best management practices and mitigation.

Terrestrial and Aquatic Plant Species – The Roadless FEIS notes that inventoried roadless areas are important biological strongholds for native plant species and communities, especially in the lower 48 States. Most risk to various desired plant species and communities in inventoried roadless areas is associated with new roads. Concerns included introduction of nonnative invasive plants and fragmentation of forested habitats by clearcut harvesting of timber.

Effects of Social and Economic Mitigation on Biodiversity – These sections of the Roadless FEIS displayed potential effects of allowing some activities or programs to occur over the next 5 years, primarily to offset major changes in ongoing programs like timber management on the Tongass and leasable minerals on other National Forests. The activities on the Tongass that were discussed in the Roadless EIS are primarily road construction and reconstruction associated with timber sales. The Roadless FEIS did note the construction of non-timber sale related roads on the Chugach (6 miles) but concluded such roads were not likely to occur on the Tongass. (See also Transportation Development Section.)

Other Indirect and Cumulative Effects on Biodiversity – The Roadless FEIS notes that the Tongass comprises 80 percent of Southeast Alaska and acknowledges the role of the Forest in providing social and economic opportunities for the communities and economy of Southeast Alaska. It also notes the important role of the Tongass in providing for intact functioning ecosystems. The FEIS (3-391) notes that incremental loss of habitat and species abundance in various locations on the Tongass is expected to occur under the Tongass Exempt Alternative, without posing what is currently considered an unacceptable level of risk to biodiversity across the Tongass as a whole.

Areas of Potential New information or Changed Circumstances

Ecoregions – The Tongass 2003 SEIS assessed representation by ecoregion for the Tongass and the results are very close or within the ranges expressed in the Roadless FEIS. Representation was also assessed at two finer scales of ecological classification, the section and subsection scales. These efforts concentrated primarily on the representations of the productive old-growth forest habitats as this is considered to be the most at-risk component of the ecosystem from a biodiversity standpoint. Approximately 5 million acres are currently in the productive old growth category. Another 4.5 million acres of non-productive old growth exist on the Tongass. The 2003 SEIS notes (at 3-44) the old-growth conservation strategy in the 1997 Tongass Forest Plan conserves plant and animal communities by maintaining approximately 90 percent of existing productive old growth Forest-wide, including large blocks in each of the biogeographic provinces. Note that biogeographic provinces are similar to the ecological sections/subsections analyzed in the 2003 SEIS. The analysis in the 2003 SEIS indicates no significant changes in representation by ecoregion for the Tongass under the current Forest Plan compared to the Roadless FEIS, and no substantially different environmental effects between the two analyses.

Fragmentation – As noted above, most concerns described in the Roadless FEIS regarding fragmentation were primarily associated with the cumulative effects associated with decades of development on national forests outside of Alaska. For the Tongass, the effects analyses in the 1997 Tongass Forest Plan FEIS and the 2003 SEIS also address fragmentation, which for the most part, is more localized in nature because of the vast tracks of undeveloped lands on the Tongass. The old-growth conservation strategy included in the 1997 Tongass Forest Plan was designed to protect key habitats, habitat function, and habitat connectivity across the ecosystems of the Tongass, especially in areas where development has been concentrated in the past, such as Prince of Wales Island. Although the conservation strategy is not discussed in great detail in the Roadless FEIS and associated specialists reports, it is obvious the preparers were aware of the degrees of protection the strategy provides. The Roadless FEIS notes findings more associated with levels of risk by implementation of development projects which could contribute to fragmentation. The Roadless EIS estimated that 593 MMBF would be harvested over the five-year period 2000-2004. As reported in the Tongass National Forest Annual Monitoring & Evaluation Report for Fiscal Year 2002 (FY 2002 Monitoring Report), only 229 MMBF was actually harvested on the Tongass from 2000 through 2002. The actual harvest level over the 5-year period covered by the Roadless FEIS is likely to be far less than the amount estimated. Based on a review of the analyses of fragmentation contained in the Roadless FEIS and the 1997 Tongass Forest Plan EIS and 2003 SEIS, there are no substantial differences that result in significantly different environmental effects.

Size Considerations – Information in this category, primarily in the 2003 SEIS, is consistent with the Roadless FEIS. Those analyses do not have substantial differences that indicate any significantly different environmental effects.

Terrestrial Animal Habitat and Species – As noted above, the Roadless FEIS displays effects more associated with the cumulative effects of past and future developments on national forests outside of Alaska. The 1997 Tongass Forest Plan and 2003 SEIS describe how the Tongass old-growth conservation strategy was designed in part to address a list of species that could be most affected by ongoing and future developments on the Tongass to ensure their long-term sustainability and viability.

Several administrative studies have been initiated with the PNW Station to follow up on the assessments and analyses of the Tongass Forest Plan to address potential concerns or lack of specific knowledge for certain species. Two of these address the use by flying squirrels of unproductive old-growth forest, land containing trees too small to be of commercial value and the presence and habitat uses of such forest land by small endemic mammals on smaller islands in Southeast Alaska. The flying squirrels appear to use the unproductive old growth as well as the productive old growth. Preliminary findings from this study indicate the unproductive old growth may play an important habitat role at least for some species across the Tongass..

The Forest Plan's old-growth conservation strategy and effects analyses have given little credit to the unproductive old growth component from a habitat and an ecosystem function standpoint. Results of the flying squirrel studies are too preliminary to draw specific conclusions at this time. Preliminary results of the endemism studies indicate endemism associated with the smaller islands in Southeast Alaska may not be of as high concern as previously thought. However, the information on endemism concerns is still inconclusive. Because they remain preliminary and inconclusive, the results of these studies do not constitute new information requiring a SEIS. Other studies of interest from a species and biodiversity standpoint include those associated with forage production in second growth stands. Various analyses associated with timber harvests on the Tongass have assumed basically no forage production after about 25 years from the harvest. These studies are primarily oriented toward deer, but have direct consequences on other species we are concerned about including the wolf.

Preliminary results indicate various regimes of pre-commercial and commercial thinning treatments on second-growth stands can substantially increase forage production. Exclosures in second-growth stands are also indicating forage production in untreated stands may be much higher than predicted. Results of these studies and others are adding to our knowledge for both species and ecosystem functions. It appears that the old-growth conservation strategy in

place for the Tongass is functional and will continue to function as predicted under the Roadless FEIS.

A review of the treatment of this topic in the Roadless FEIS on the one hand, and 2003 SEIS on the other, indicates no substantially different environmental effects or information that would indicate a need to supplement the Roadless FEIS. The results from other reports are too preliminary and inconclusive to constitute new information requiring a SEIS.

Aquatic Animal Habitat and Species – Recent findings related to this component of biodiversity from the 2003 SEIS and the FY 2002 Monitoring Report are consistent with the effects projected in the Roadless FEIS. The most relevant issue for the Tongass is the identification of fish passage needs on the existing road system. Most of these structures were installed using fish passage criteria that are now considered less than adequate. The Tongass is actively addressing the fish passage problems. Monitoring indicates none of the newer fish passage structures are contributing to the problem. The Tongass Forest Plan conservation strategy, along with the high amount of lands on the Tongass that restrict development, should prevent any significant deterioration of aquatic habitat and species. There is no significant new information on this topic since completion of the Roadless EIS that is relevant to the decision to be made on the July 15, 2003 proposed rule to exempt the Tongass from the prohibitions of the roadless rule.

Terrestrial and Aquatic Plant Species – The potential effects described in the Roadless FEIS under the Tongass Exempt Alternative could occur on the Tongass to some degree. However, the amount of lands subject to management direction that restricts development should keep such effects very localized and not be a serious threat to overall biodiversity and ecosystem function. The potential spread of non-native invasive species on the Tongass may be more associated with developments on private land than timber management or road related activities on the Forest. There is no new information or circumstances that substantially change the decision-making picture on this issue since completion of the Roadless FEIS

Threatened, Endangered, Proposed, and Sensitive Species – Information in this category, primarily in the 2003 SEIS, is not substantially different from that in the Roadless FEIS. The Tongass Forest Plan's old-growth conservation strategy was designed to prevent additional listings of species under the Endangered Species Act (ESA). Converse to most situations on national forests outside Alaska, the Tongass has a functional ecosystem in place, and land management direction that includes a conservation strategy designed to maintain that function through time. The US Fish and Wildlife Service decided not to list the Alexander Archipelago Wolf and the Queen Charlotte Goshawk under the ESA because of the protection offered these species under the 1997 Forest Plan (62 FR 46709-46712, September 4, 1997).

Effects of Social and Economic Mitigation on Biodiversity – The Roadless FEIS considered the environmental effects of delaying implementation of the prohibitions for a few years. The 2003 SEIS has addressed the current situation and longer-term projections. Recent findings are consistent with the projections and trends identified in the Roadless FEIS. Accordingly, there is no significant new information or circumstances on this topic warranting the preparation of a supplemental environmental impact analysis.

Other Indirect and Cumulative Effects on Biodiversity – Newer information, like the 2003 SEIS, is not substantially different from that in the Roadless FEIS. Some preliminary findings from the Tongass Forest Plan follow-on studies indicate some species may not have as much risk within the ecosystem as previously thought, however these findings are preliminary and inconclusive and thus do not constitute significant new information requiring the preparation of a SEIS. Overall, the Tongass old-growth conservation strategy is expected to prevent significant adverse effects on the ecosystem functions of Southeast Alaska.

The differences between the 1999 ROD (now vacated) and the 1997 Tongass Forest Plan as they relate to biodiversity include: the extended timber harvest rotation; the open road density standard and guideline for wolf mortality; and the 18 areas of special interest with the associated additional recommendation of two wild and scenic rivers. Each of these areas was reviewed and the differences found not to be significant for the following reasons:

- 1) The effects analysis in the Roadless FEIS for the Tongass was based on the 1997 Tongass Forest Plan FEIS, which was developed over several years with extensive public involvement including a science consistency review process. In the 1999 ROD, the Under Secretary stated there was no material difference in the environmental effects from those presented in the 1997 Tongass Forest Plan FEIS.
- 2) The Roadless FEIS states that “The 1999 [Tongass Forest Plan] Record of Decision is comparable to the other [Tongass Forest Plan] FEIS alternatives that were ranked among those having lower species risk ratings” (Roadless FEIS Vol. 1 at 3-380). Alternative 11 was one of those. The 1997 Tongass Forest Plan FEIS states that Alternative 11, which was selected as the Tongass Forest Plan in the 1997 ROD, is considered to have the least overall risk to wildlife viability of the 11 alternatives considered--other than Alternative 1, the minimal-harvest alternative--and was projected to have a moderately high likelihood of maintaining viable well-distributed populations of old-growth associated species across the Forest (Tongass Forest Plan FEIS, 3-429).
- 3) The extended timber harvest rotation to 200 years in selected wildlife analysis areas in the 1999 ROD does not change the trees that are available for harvest when compared to the 1997 Tongass Forest Plan with a 100-year rotation. It does change the timing or scheduling of the timber harvest, but a 200-year

rotation was not discussed in the Roadless FEIS. The effects analysis in the 1997 Tongass Forest Plan FEIS was based on the assumption that timber would be harvested at the Forest Plan's maximum allowable level for 120 continuous years. The actual amount harvested has been less than 50 percent of the maximum level since 1997, and, on average, less than 60 percent of the maximum allowed since 1980. The effects on biodiversity are likely to be less than those estimated in the 1997 Tongass Forest Plan FEIS and not significantly different than the 1999 ROD.

4) The road density standard and guideline for wolf mortality controls the density of roads open at any one time. It does not directly limit which roads can be built as other roads are closed or which timber can be harvested. This means it does not cause a substantial difference in environmental effects between the 1999 ROD and the 1997 Tongass Forest Plan FEIS.

5) The 18 areas of special interest and two associated wild and scenic rivers recommended are allocated to non-development land use designations in the 1999 ROD. They represent 1.7 percent of the old-growth conservation reserve system. This is not a significant new circumstance with regard to biodiversity because, without this additional 1.7 percent, the 1997 Tongass Forest Plan still ranks among the lowest risk to old-growth ecosystems over time and retains the greatest amount of the original old-growth forest of any alternative with scheduled timber harvest. The 1997 Tongass Forest Plan also ranked as having the least reduction in biodiversity among all the alternatives with scheduled timber harvest. (Tongass Forest Plan FEIS, 3-27 to 3-39).

6) The 1997 Tongass Forest Plan would retain 83 percent of the productive old-growth forest that existed in 1954 when large-scale timber harvest activities began, compared to 92 percent that exists today, even if timber is harvested at the maximum level allowed by the Forest Plan for 120 straight years. Under the 1999 ROD, 86 percent would remain under the same maximum harvest assumption. That difference in long-term cumulative effects of implementation is not significant.

Public Comments

Some comments on the July 15, 2003 proposed rule to exempt the Tongass from the prohibitions in the roadless rule stated that the large, intact ecosystem in the Tongass is a unique rainforest and its protection from fragmentation is essential to preserve endangered species and other wildlife. Further, protection afforded in the roadless rule will have a substantial influence in alleviating global warming. They specifically discuss the protection of old growth areas and the importance for future generations, genetic diversity and wildlife habitat. They assert that the reason many wildlife species whose populations are reduced in the lower 48 states (such as bears, wolves, eagles, martens, wolverines, and mountain goats) thrive in the Tongass is in part due to the existence of large, unroaded areas that minimize contact with people, and minimize direct mortality from both legal and illegal harvest. Other comments point out that the Tongass Forest Plan has land allocations that are strong enough to protect and preserve the wild character of

the Tongass, allowing development only after comprehensive environmental review and public input.

These comments are similar to those regarding biodiversity that are summarized in the Roadless FEIS, Vol. 3, pages 48, 52 to 54, and 158 to 161, and more specifically for the Tongass National Forest on pages 190 and 195 – 197, therefore new information or new circumstances have not been presented.

Conclusion

The review of relevant new studies or updated information is within the trends and projections of the Roadless FEIS. The information primarily offers additional clarity and/or precision of existing information but adds nothing new that substantially alters the effects analysis presented in the Roadless FEIS.

Much of the biodiversity analyses in the Roadless FEIS was broad in nature and compared alternatives by degrees of potential risk.

Excerpts from the 2003 SEIS Record of Decision (ROD) are referenced to summarize relevant biodiversity-related provisions of the Forest Plan and their effects (See Appendix A, Biodiversity Section). They are from the 'Science and Forest Plan Allocations' and 'Conservation Strategy and Old-growth Habitat Reserves' sections found on pages 18 to 21 of the 2003 ROD.

Although, these excerpts provide more detail than does the Roadless FEIS, they demonstrate that the biodiversity effects of implementing the Tongass Forest Plan are within the range of effects estimated in the Roadless FEIS.

For all these reasons, the conclusion in the Roadless FEIS regarding biodiversity effects of the Tongass Exempt Alternative are still true.

Incremental loss of habitat and species abundance in various locations on the Tongass is expected to occur under the Tongass Exempt Alternative, without posing what is currently considered an unacceptable level of risk to biodiversity across the Tongass as a whole.

Roadless FEIS Vol. 1 at 3-391.

Accordingly, we conclude that there is no significant new information or new circumstances regarding effects on Biodiversity that warrant the preparation of additional environmental analysis before making a decision on the July 15, 2003 proposed rule to exempt the Tongass from the prohibitions of the roadless rule.

F. Other Issues Raised:

Introduction

These issues were also reviewed to determine if there are new circumstances or information sufficiently significant to require preparation of a supplemental environmental impact statement before making a decision to select a different alternative from the Roadless FEIS for the Tongass, as is proposed. For the reasons summarized below, no need to supplement was determined for these issues. Details are available in the appendices of this report.

Mineral Development. The extent of mining permitted within Roadless Areas was an important component of the final decision on the roadless area policy (66 FR 3244). The decision not to exempt leasable mineral development was an important consideration in adopting the Final roadless rule provisions (66 FR 3256).

Information on leasable minerals, such as oil and gas, can change quickly. Therefore, concerns have been raised that the proposed policy to exempt the Tongass National Forest from provisions of the roadless rule would greatly expand mining on the Tongass and that new information puts a different light on our understanding of these effects than were discussed in the Roadless FEIS.

Active mining continues on the Tongass National Forest at a level consistent with historic trends and consistent with trends estimated in the roadless rule. However, the Roadless FEIS distinguished locatable minerals from leasable minerals and noted that locatable minerals would not be affected by the roadless rule. The greatest impacts to minerals explored in the Roadless FEIS pertain to leasable minerals, but because the Tongass has such a small program of leasable minerals those analyses do not apply to the Tongass.

The Roadless FEIS included information on specific known conflicts with leasable development because of the potential economic, social and environmental impacts associated with curtailing or exempting these activities. The FEIS did not specifically identify such important leasable resources on the Tongass. The vast majority of mineral development on the Tongass National Forest are locatable minerals, which are unaffected by the roadless rule. But a small number of leasable opportunities do exist on the Tongass National Forest. These opportunities are small and were known at that time of the Roadless Areas environmental analysis. There is no new information or changed circumstances identified for locatable or leasable mineral development applicable to the Tongass National Forest that would require supplementation of the Roadless FEIS. A more expanded discussion of the minerals investigation for this report is contained in Appendix VII.

Forest Health. The Roadless FEIS and associated Specialist Reports assumed the Tongass National Forest contains, for the most part, healthy and stable ecosystems. The Roadless FEIS projected trends and effects in response to the various alternatives (Tongass Biological Resources Specialist Report). The relatively low risk to fire, endemic levels of insect and disease, and other disturbance factors are not dependent on roadless area designation and not issues typically associated with the Tongass National Forest. Wind, rather than fire, is the predominant natural disturbance element in Southeast Alaska. In general, relatively few forest health vegetative treatment opportunities exist on the Tongass in comparison to forests in the lower 48 states. This is consistent with the broad discussion in the Roadless FEIS regarding natural disturbance elements other than fire (Roadless FEIS Vol. 1, 3-73 to 3-123 and 3-374).

The discussion of the forest health issue within the Roadless FEIS was driven primarily by effects associated with roadless management in fire dependent and fire adapted ecosystems in the United States. New information concerning forest health applies to fire dependent and fire adapted ecosystems and not ecosystems of the Tongass National Forest. The review of new studies, environmental impact statements, and other information pertinent to the Tongass National Forest (see Appendix V. on Biodiversity for a list of documents reviewed) show that current trends in forest health are within historic norms for the Tongass National Forest and consistent with those assumed in the Roadless FEIS. Therefore, there is no new information or changed circumstances for forest health applicable to the Tongass National Forest that would require supplementation of the Roadless FEIS.

Karst Resources. Chapter 3 of the Roadless FEIS (Vol. 1, 3-262 to 3-264) and Minerals and Geology Specialist Report provide an overview of the potential values associated with karst and cave resources. The FEIS concludes that where these areas are protected by prohibiting road building and timber harvest there will be less risk of impacts to these resources. The Roadless FEIS, therefore, recognizes that a Tongass exempt alternative poses higher risk to these resources.

The Forest Plan requires monitoring and evaluation of standards and guidelines for karst and cave resources (Tongass Forest Plan, 6-7). This has been done, primarily related to timber sale project planning and implementation, and reported on annually in the Annual Monitoring and Evaluation Reports since the 1997 Revision of the Forest Plan. The standards and guidelines for karst and caves are monitored relative to their implementation, and for their effectiveness in meeting the goals and objectives of the Plan. Overall, the monitoring indicates the standards and guidelines are being implemented and are effective in protecting the karst and cave resources while conducting other resource projects. This monitoring has also identified the need to clarify and strengthen the standards and guidelines. Projects have incorporated these needs and the Forest is in the process of formalizing the standards and guidelines as

appropriate. In addition to the ongoing Forest Plan monitoring and evaluation, the Forest has conducted an effectiveness monitoring effort that has included foremost experts in karst and cave resource management worldwide. Results are reported in *Karst Management and Implementation Review* which concludes that implementation of the 1997 Tongass Forest Plan Karst Standards and Guidelines has ensured a high level of protection for karst resources.

These results are consistent with the effects discussed in the Roadless FEIS for karst and cave resources and there is no new information or changed circumstances that warrant further investigation or require supplementing the Roadless FEIS.

Social Effects. As described in detail in Appendix F, the Roadless FEIS and the accompanying Socioeconomic Specialist Report describe the social effects of the roadless rule, primarily in general qualitative terms that are not specific to the effects of applying the roadless rule's prohibitions to the Tongass. After reviewing this information and more recent information made available since the Roadless FEIS was published in 2000, it has been determined that the social effects of the Tongass Exempt Alternative have not changed significantly since the Roadless FEIS was completed, and that there are no significant new circumstances or information relevant to the decision to be made on the proposed rule that would warrant further investigation or require a supplement to the Roadless FEIS.

Water Quality. The environmental effects analysis in the Roadless FEIS is general and relies on the amount of potential timber harvest and road construction to determine potential levels of risk between alternatives. (FEIS Vol. 1, 3-49 to 3-53; and Physical Resources Specialist Report, 11 to 17). The Roadless FEIS discusses the role of Best Management Practices (BMPs) and their potential effectiveness in reducing water timing and quality effects. It also notes various cites and the high percentage of use of BMPs in most cases. The Physical Resources Specialist Report notes even though the Alaska Region has the highest level of timber harvest and road construction in inventoried roadless areas, its yearlong precipitation make any potential changes in runoff peaks or timing difficult to detect. The effects discussed for the Tongass Exempt alternative imply the same relationship of increased timber harvesting associated with decreases in water quality and increases in water peak flows.

There is no new information applicable to the Tongass National Forest that changes these general relationships. These same relationships have been assumed in other analyses more specifically applicable to the Tongass National Forest. (2003 SEIS). These estimates of effects are unchanged by any new information or changed circumstances and, therefore, do not warrant further investigation or require supplementing the Roadless FEIS.

Threatened, Endangered Species and Sensitive Species. The federally listed species within the boundary of the Tongass National Forest are:

Endangered Species:

Humpback whales (*Megaptera novaeangliae*)

Snake River sockeye salmon (*Onchochrynchus nerka*)

Threatened species:

Steller (Northern) sea lion (*Eumetopias jubata*)

Snake River spring/summer chinook salmon (*Onorhynchus tshawytscha*)

Snake River fall chinook salmon (*Onorhynchus tshawytscha*)

The Endangered Species Act for the State of Alaska authorizes the Commissioner of the Alaska Department of Fish and Game (ADF&G) to list Alaska endangered species. Recovery plans have been prepared for the humpback whale and Steller sea lion.

Pursuant to Section 7 of the ESA, a biological assessment was prepared for the endangered humpback whale, American peregrine falcon, and Snake River sockeye salmon and the threatened Steller sea lion, Snake River spring/summer Chinook salmon, and Snake River fall chinook salmon, and submitted to NMFS for review and concurrence in the 1997 Tongass Forest Plan Revision process. Since the 1997 Forest Plan Revision Final EIS, the American peregrine falcon has been delisted. The final delisting rule for this falcon was published on August 25, 1999 (64 FR 46542). The only plant federally listed or proposed by the USFWS in Alaska is the Aleutian shield-fern (*Polystichum aleuticum*), which is endangered. It is only known from Adak Island and is not expected to occur in the Tongass National Forest.

The northern goshawk and Alexander Archipelago wolf were both the subject of listing petitions under the ESA; they were reviewed and formally accepted by the USFWS in 1994. The USFWS concluded in 1995 that listing was not warranted for either subspecies, but remains concerned for their long-term viability. In part, the USFWS decisions were based on expectations of the Forest Service employing species-specific conservation strategies into the 1997 Forest Plan Revision. Recent court decisions have required the USFWS to re-evaluate both listing petitions. This is the same situation that the Roadless FEIS used to evaluate the impacts of the Tongass alternatives, so no additional analysis or supplement is needed.

The Alaska Region Sensitive Species List was updated in January 2001 for vertebrates and in June 2002 for plants. Seventeen sensitive plant species and seven vertebrate species are known or suspected to occur on the Tongass National Forest. The list is the same for vertebrate species as what was used in the Roadless FEIS, so no new information there. In the 2002 update, the plant species' list has removed one species from the list and added two more plant species known or suspected to occur on the Tongass since the Roadless FEIS

was completed. This is a small change that would not even be noticed from what was considered at the broad level of analysis in the Roadless FEIS. The Alaska Region Sensitive Species List remains under review and revision under a regional process.

Given this information along with ongoing Tongass Forest Plan monitoring information, the conclusion in the 1997 Tongass Forest Plan ROD that the overall level of activities under the forest Plan is not anticipated to contribute to a trend toward Federal listing or cause a loss of viability to the population and species has not changed.

Other Tongass Alternatives in the Roadless FEIS. The Roadless FEIS considered four alternatives specific to the Tongass National Forest: Tongass Not Exempt (which was selected as part of the final roadless rule in the January 12, 2001 ROD); Tongass Exempt (now being proposed for adoption as an amendment to the rule); Tongass Deferred; and Tongass Selected Areas. The Roadless FEIS concluded that there would be no relevant differences among the three prohibition alternatives (all alternatives except Tongass Exempt) for several reasons, as discussed on pages 3-377 and 3-378 of the Roadless FEIS (Vol. 1). With the 1999 Tongass Forest Plan ROD vacated, the Tongass Selected Areas Alternative was re-examined to see if the 18 areas of special interest that are no longer in non-development land use designations would significantly change the environmental effects of implementing the 1997 Tongass Forest Plan instead of the 1999 ROD.

The Roadless FEIS estimated that under the Tongass Selected Areas Alternative, some areas in land use designations that allow timber harvest and road construction would be isolated by the Alternative's prohibition on road construction through certain non-development LUDs. Without the 18 areas of special interest in the non-development LUDs, there could be fewer isolated areas in the development LUDs. An analysis was conducted to determine if this effect was substantial enough to constitute a new circumstance requiring a SEIS before a new decision is made.

The conclusion is that there is no substantial change in the effects of implementing the Tongass Selected Areas Alternative as projected in the Roadless FEIS, because many of the acres that the Roadless FEIS estimated would be isolated would also be isolated by old-growth reserves under the 1997 Tongass Forest Plan. While some of these areas would be more accessible under the 1997 Tongass Forest Plan than they would have been under the 1999 ROD, the standards and guidelines for road construction in these non-development land use designations are the same under both the 1999 ROD and the 1997 Tongass Forest Plan. That direction allows roads to be built through these areas if site-specific analysis concludes that no other reasonable access options are available. Under the Tongass Selected Areas Alternative, however,

this exception would not be allowed. Road construction would be prohibited through any part of the old-growth reserve system; thus this Alternative would still isolate some commercial timber harvest areas as described in the Roadless FEIS. This has not substantially changed how the alternatives for the Tongass National Forest were considered and compared in the Roadless FEIS, or the effects of implementing the Tongass Selected Areas Alternative.

Section III-- Conclusions

The Forest Service has conducted an interdisciplinary review of new information and circumstances that have developed since the Roadless Area Conservation Final Environmental Impact Statement was completed in November, 2000. As described in Sections I and II of this report, each such changed circumstance and new information has been determined to not result in significantly different environmental effects from those described in the Roadless FEIS. In each case, such differences as may exist are not of a scale or intensity to be relevant to the decision being made, which is to adopt the July 15, 2003 proposed rule to exempt the Tongass National Forest from the prohibitions of the roadless rule or select another alternative from the Roadless FEIS.

Based on the analysis and findings described in Section I and II of this report, the Department concludes that the overall decision-making picture is not substantially different now than it was in November 2000. The environmental effects of the alternatives considered in the Roadless FEIS are not significantly different in a way that is relevant to the decision being made. The effects of implementing the proposed rule, if adopted, have been displayed to the public and thoroughly considered. Consequently, no additional environmental analysis is required. Results of this interdisciplinary review are documented in the rule-making record.

Section IV – Appendices

- A. Economics**
- B. Subsistence**
- C. Transportation**
- D. Recreation**
- E. Biodiveristy**
- F. Social**
- G. Minerals**
- H. Forest Health**
- I. Karst**
- J. Water Quality**
- K. Interdisciplinary Team**

A. Economics

Further Economic Analysis Information

This Appendix contains technical information to support analysis and conclusions derived in the Economics analysis section of this report.

Background

The estimation of timber employment and income impacts related to the implementation of the roadless rule on the Tongass accounts for the major proportion of economic analysis specific to the Tongass in the Roadless FEIS. First the Roadless FEIS calculates available timber using the different timber inventories stipulated under the different planning alternatives. Next, available timber volume is compared with an assumed level of “market demand” (to be discussed further below) in order to derive expected harvest levels. Available timber volume is sufficient to supply demand in the planning alternative exempting the Tongass from provisions of the roadless rule. In the prohibition alternatives, however, available timber falls short of demand, and this shortfall is then used to derive negative employment and income impacts expected from the implementation of the alternatives. While the details involved in actual estimation can be quite complex, the overall framework of the procedure is relatively straightforward.

Key numbers used in the derivation of the Roadless FEIS employment and income impacts are shown in Table A-1. The Roadless FEIS estimated that approximately two thirds of available timber volume on the Tongass exists in inventoried roadless areas. It further estimates that virtually all of this volume would be precluded under each of the prohibition alternatives. Based on the Allowable Sale Quantity (ASQ) of 187 MMBF stipulated in the 1999 Tongass Forest Plan ROD (since vacated), the Roadless FEIS assumes an annual sale offering on the Tongass of 176 MMBF, which would be made available under the non-prohibition alternatives (Alternative 1 and Tongass exempt). Under the Roadless FEIS alternative 2, restrictions in Roadless areas would reduce the sale offering to 73 MMBF per year, and under alternatives 3 and 4 the offering would be further reduced to 68 MMBF. Not all offered volume is sold or eventually harvested, and, in light of this fact, the Roadless FEIS predicts an annual harvest level of around 50 MMBF per year under the three prohibition alternatives.

Table A-1. Timber Sector Employment and Income Impact Calculation Figures from the Roadless FEIS (Forest Service impacts excluded)

	ALT 1 & Tongass Exempt	ALT 2	ALT 3 & ALT 4
Expected Sale Offering (MMBF)	176	73	68
Expected Harvest (MMBF)	124	51	47
Difference Relative to ALT 1	--	73	77
Expected Direct Employment Losses (annual employment) ¹	--	364	383
Expected Total Employment Losses (annual employment) ²	--	582	613
Expected Direct Income Losses (\$million / year) ³	--	\$16.7	\$17.6
Expected total Income Losses (\$million / year) ⁴	--	\$26.8	\$28.2

Source: USDA Forest Service 2000 (Roadless FEIS)

¹Implies 5.0 jobs directly generated in the logging and sawmill sectors for every 1 MMBF harvested.

²Implies 0.6 additional support jobs for every direct job in the logging and sawmill sectors.

³Implies an annual wage of approximately \$46 thousand in the logging and sawmill sectors.

⁴Implies 0.6 additional dollars generated in the support sectors for every dollar of income directly generated in the logging and sawmill sectors.

Long-term market demand for Tongass timber is estimated at 124 MMBF per year through 2010 (USDA Forest Service 2000a, p. 3-376; Brooks and Haynes 1997). Sale offerings under the Tongass Exempt alternative are well in excess of this expected demand, and, consequently, the 124 MMBF market demand estimate is taken in the Roadless FEIS as the expected level of harvest in the Tongass Exempt alternatives. Expected harvests in the Tongass Not Exempt alternatives range from 47 to 51 MMBF per year, resulting in a harvest shortfall relative to the Tongass Exempt alternative of between 73 and 77 MMBF.

Based on this shortfall, the Roadless FEIS estimated expected direct job losses of around 370 jobs per year for the prohibition alternatives (see table A-1). This estimate implies that approximately 5 jobs per year are generated in the logging and sawmill sectors for every MMBF harvested annually. Direct job losses are assumed to have ripple effects throughout the regional economy as support and service industries experience an associated loss of business, and the Roadless FEIS estimates total job losses of approximately 600 for the Tongass Not Exempt alternatives, implying an additional 0.6 jobs lost for every job lost in the logging and sawmill sectors. Direct and total income losses are estimated at about \$17 million and \$27 million respectively, implying an annual income of \$46 thousand in the logging and sawmill sectors and, once again, an additional \$0.6 generated for every direct dollar of income in the timber sectors.

The Roadless FEIS also estimates potential impacts to Forest Service employment and their associated ripple effects. Direct losses of 141 Forest Service jobs and an associated \$7.1 million in income are anticipated under the prohibition alternatives, with an additional 141 jobs and \$3.4 million lost throughout the regional economy when ripple effects have been taken into account. The Roadless FEIS recognizes that “[t]he relationship between Forest

Service employment and timber is complex and difficult to quantify” (p. 3-379), and these estimates are not incorporated in the Roadless FEIS tables describing impacts of specific Tongass alternatives (e.g., table 3-80), nor are they displayed in the national summary tables describing total employment impacts (tables 3-59 through 3-61). Tongass forest planning documents likewise forego the estimation of Forest Service employment and income impacts.

References Cited or Otherwise Considered

- Alaska Department of Labor. 2003. Current Employment Statistics. Available at: <http://almis.labor.state.ak.us/>
- Alaska Department of Labor. 2002. The 2010 Employment Outlook. Alaska Economic Trends, 22(5). Available at: <http://146.63.75.50/trends/may02.pdf>
- Alaska Department of Labor. 2000. 2000 Employment and Earnings. Available at: <http://almis.labor.state.ak.us/>
- Brooks, David J.; Haynes, Richard W. 1997. Timber Products Output and Timber Harvests in Alaska: Projections for 1997-2010. Gen. Tech. Rep. PNW-GTR-409. Portland, OR: USDA Forest Service, Pacific Northwest Research Station.
- Kruger L. E. [In prep.]. Social science Contributions to Tongass Land Management Planning. Portland, OR: USDA Forest Service, Pacific Northwest Research Station.
- McDowell Group. 2000. Economic Impacts of Declining Tongass Timber Harvests. Juneau, AK: McDowell Group, February 2000. 17 pp.
- Northern Economics. 2002. Alaska Visitor Arrivals and Profile Summer 2001. Prepared for the State of Alaska Department of Community and Economic Development. Available at: <http://146.63.75.50/trends/may02.pdf>
- Robertson, Guy. [In press]. A Test of the Economic Base Hypothesis in Southeast Alaska. Gen. Tech. Rep. PNW-GTR-592. Portland, OR: USDA Forest Service, Pacific Northwest Research Station.
- Schroeder, Robert; Cerveney, Lee; Robertson, Guy. [In prep.]. Tourism Growth in Southeast Alaska: Trends, Projections, and Issues. Portland, OR: USDA Forest Service, Pacific Northwest Research Station.
- USDA Forest Service. 2003a. Tongass Land Management Plan Revision Final Supplemental Environmental Impact Statement. Forest Service, R10-MB-481.

- USDA Forest Service. 2003b. Forest Service Inventory and Monitoring Institute. Information available at:
http://www.fs.fed.us/institute/econ_center_www.html
- USDA Forest Service. 2000a. Roadless Area Conservation: Final Environmental Impact Statement. Washington Office, November 2000.
- USDA Forest Service. 2000b. Roadless Area Conservation: Specialist Reports for the Final Environmental Impact Statement. Washington Office, November 2000.
- USDA Forest Service. 1997. Tongass Land Management Plan Revision Final Environmental Impact Statement. Alaska Region, R10-MB 338.

B. Subsistence

References Cited or Otherwise Considered

USDA Forest Service, 2000. Roadless Area Conservation FEIS.

Charnley, Susan and Linda Lagner, 2001. Socioeconomic Specialist Report for Roadless Area Conservation FEIS, USDA Forest Service.

Federal Subsistence Board, August 7 and 12, 2003 letters to Southeast Subsistence Regional Advisory Council.

Tongass National Forest, 1997. Tongass Land and Resource Management Plan, Final EIS, and Record of Decision.

Tongass National Forest, 1999. Tongass Land and Resource Management Plan, Record of Decision. Vacated.

Tongass National Forest, 2003. Final SEIS and Record of Decision, Roadless Area Evaluation for Wilderness Recommendations.

Tongass National Forest, 2003 and 2002. Annual Monitoring and Evaluation Reports for Fiscal Years 2002 and 2001.

Calvin, Jim, 2003. Southeast Alaska Economic Overview. McDowell Group, Juneau, Alaska.

Kruger, Linda E., (in prep) Social Science Contributions to Tongass Land Management Planning.

Mazza, Rhonda, 2003. Hunter Demand for Deer on Prince of Wales Island, Alaska: An Analysis of Influencing Factors. USDA Forest Service, Pacific Northwest Research Station PNW GTR-581.

Paige, Amy, 2002. Subsistence Harvest and Use of Salmon and Selected Non-Salmon Species, Southeast Alaska Community Summaries, Division of Subsistence, Alaska Department of Fish and Game.

Southeast Alaska Federal Subsistence Regional Advisory Council, May 2003, 2002 Annual Report.

Wolfe, Robert J., 2000. Subsistence in Alaska: A Year 2000 Update, Division of Subsistence, Alaska Department of Fish and Game.

C. Transportation

References Cited or Otherwise Considered

Tongass Forest Plan FEIS, May 1997.

Tongass Forest Plan FEIS, Record of Decision, May 1997.

Tongass Forest Plan FEIS, Record of Decision, April 1999.

Tongass Land and Resource Management Plan, May 1997.

Roadless Area Conservation FEIS, Volume 1, November 2000.

National Forest System Roads Specialist Report, Joel Krause, November 2000.

Tongass Forest Plan Final SEIS Roadless Area Evaluation for Wilderness Recommendations, February 2003.

Tongass Forest Plan Final SEIS Roadless Area Evaluation for Wilderness Recommendations Record of Decision, February 2003.

Southeast Alaska Proposed Public Road and Ferry Projects, prepared for Southeast Conference, March 2003.

D. Recreation

References Cited or Otherwise Considered

USDA Forest Service, 2000. Roadless Area Conservation FEIS.

Charnley, Susan and Linda Lagner, 2001. Socioeconomic Specialist Report for Roadless Area Conservation FEIS, USDA Forest Service.

Harmer, David R. Specialist Report for Recreation and Recreation Special Uses, 2000. USDA Forest Service, Roadless Area Conservation FEIS.

Tongass National Forest, 1997. Tongass Land and Resource Management Plan, Final EIS, and Record of Decision.

Schroeder, R., Cerveney, L. and Robertson, G. Tourism growth in southeast Alaska: trends, projections, and issues. PNW. DRAFT.

Northern Economic, Inc. 2003 Summer 2002 secondary arrival report. www.dced.state.ak.us/cbd/toubus. (June 18, 2003).

E. Biodiversity

Excerpts from the 2003 SEIS Record of Decision for the Tongass Forest Plan are duplicated below to summarize relevant biodiversity related protections and thinking. They are from the 'Science and Forest Plan Allocations' and 'Conservation Strategy and Old-growth Habitat Reserves' sections found on pages 18-21 of the ROD.

The current Forest Plan provides strong environmental protections and safeguards. It is based on the best available science and was developed using scientists to ensure the Plan was physically, biologically, economically, and socially sound. The work was panel-reviewed and peer-reviewed. The Forest Plan is scientifically credible and resource sustainable. The Forest Plan provides for the sustainability of the resources of the Tongass National Forest, while directing the coordination and management of multiple uses, such as outdoor recreation, timber, mining, wildlife, fish, watershed, and wilderness. To accomplish this goal, the Forest Plan includes a wide range of land allocations ranging from allocations that essentially allow no land-disturbing activities to allocations that allow intensive resource development. The Forest Plan also includes a set of standards and guidelines that ensure management objectives for these land allocations are met. Recognizing that conditions on the Tongass National Forest do not remain static and that new information is constantly

being developed, the Forest Plan embraces an adaptive management approach. This approach refers to the continuous process of action-based planning, monitoring, research, evaluation, and adjustment, with the objective of improving implementation to achieve desired management goals and objectives.

In addition to the 5.8 million acres of existing wilderness, the Forest Plan provides another 7.4 million acres allocated to LUDs that will be retained in a natural condition. Therefore, a total of 13.2 million acres of the 16.8 million-acre Tongass National Forest is currently in non-development LUDs.

The Forest Plan provides a significant measure of protection for inventoried roadless areas. The Plan allocated 74 percent of inventoried roadless areas (7.1 million acres) to non-development LUDs.

The Tongass National Forest has about 9.4 million acres of old-growth forest, about 5 million acres of which are of commercial size and considered as productive old growth (POG). The Forest Plan allows no timber harvest for nearly 90 percent of the 5 million acres of existing productive old growth. Approximately 16 percent of the high-volume old growth on the Tongass has been harvested in the past. About 1.7 million acres of the productive old growth is located in designated wilderness on the Tongass. More than 3 million acres of productive old growth is located below an elevation of 800 feet. About 2.2 million acres of the productive old growth considered high-volume old growth. High-volume, coarse canopy old growth (volume classes 6 and 7) found on the Tongass amounts to approximately 539,000 acres, 476,000 acres of which is not available for commercial timber harvest.

The Forest is managed to produce desired resource values, products, services, and conditions in ways that also sustain the diversity, function, and productivity of ecosystems. The Forest is managed to maintain a mix of habitats at different spatial scales capable of supporting the full range of naturally occurring flora, fauna, and ecological processes native to Southeast Alaska.

Extensive, unmodified natural environments characterize the Forest and will continue to do so. Old growth is and will continue to be the predominant vegetative structure on the Tongass, and the abundance and distribution of habitats, especially old-growth forests, will be maintained to sustain viable populations and provide for continued commercial, sport and subsistence use of fish and wildlife species.”

“The Tongass Forest Plan includes a Conservation Biology Strategy that is one of the best in the world. The Strategy provides habitat to maintain well-

distributed, viable populations of old growth-associated species across the Forest. The Strategy consists of two basic components.

One part consists of large, medium, and small reserves located strategically across the Tongass. The Tongass currently has approximately 5,060,000 acres of productive old growth (POG) forest. The Forest Plan includes 70 percent of that in some form of non-development LUD, reasonably distributed across the Forest. These non-development LUDs account for the large, medium, and small reserves of the Strategy. In addition, projects since 1997 that implement the Forest Plan (primarily timber sales), have formally added about 12,440 acres of POG to the reserve system with project decisions. This has included about 2,400 acres of old growth land considered suitable and available for timber harvest under the Plan.

The second part of the Strategy provides for connectivity of the reserves, and addresses old growth structural needs within the matrix part of the Strategy, which is where developments may occur through time. Within these areas, which make up about 22 percent of the Forest, components of the old growth ecosystem are maintained by standards and guidelines designed to protect important areas and provide old growth forest habitat connectivity. Some of the primary management prescriptions, designed to ensure protection of a significant proportion of remaining high-quality habitat within the matrix, are the 1,000-foot beach and estuary fringe and riparian buffers. Other standards and guidelines preclude or significantly limit timber harvest in areas of high hazard soils, steep slopes, high vulnerability karst terrain, visually sensitive travel routes and use areas, and timber stands technically not feasible to harvest. In addition to providing significant old growth protection, many of these prescriptions such as beach and estuary fringe, riparian buffers, and small reserves provide important connectivity functions between the reserve portion of the Strategy. The design of the Strategy also accounts for developments on adjacent State and private lands.

Forty-four percent of the old growth in reserves is high-volume strata old growth, which is generally considered higher quality wildlife habitat, compared to a forest-wide average of 43 percent today and 47 percent in 1954.

The overall landscape design included in the Forest Plan was responsive to many of the recommendations by an independent science peer review of the initial underlying old growth conservation strategy as designed by the Interagency Viable Population Committee (VPOP), as well as subsequent responses to these recommendations.”

References Cited or Otherwise Considered

Tongass Forest Plan FEIS, May 1997.

Tongass Forest Plan FEIS, Record of Decision, May 1997.

Tongass Forest Plan FEIS, Record of Decision, April 1999.

Tongass Land and Resource Management Plan, May 1997.

Roadless Area Conservation FEIS, Volume 1, November 2000.

Roadless Area Conservation, Forest Management Specialist Report, M. Williams, November, 2000.

Roadless Area Conservation, Landscape Analysis and Biodiversity Specialist Report, J. Martin, et al., November, 2000.

Roadless Area Conservation, Terrestrial and Aquatic Habitat and Species Specialist Report, S. Brown and R. Archuleta, November 2000.

Roadless Area Conservation, Tongass Biological Resources Specialist Report, E. Johnston and C. Thomas, November 2000.

Tongass Forest Plan Final SEIS Roadless Area Evaluation for Wilderness Recommendations, February 2003.

Tongass Forest Plan Final SEIS Roadless Area Evaluation for Wilderness Recommendations, Record of Decision, February 2003.

Tongass National Forest Annual Monitoring and Evaluation Reports for Fiscal Years 1999, 2000, 2001 & 2002.

Trophic Linkages Between Headwater Forests and Downstream Fish Habitats: Implications for Forest and Fish Management, M. Wipfli, (2003 in preparation).

An Approach to Effectiveness Monitoring of Floodplain Channel Aquatic Habitat: Findings and Implications for Future Research Addressing Aquatic and Riparian Interactions, R. Woodsmith, et al, (2003 in preparation).

Evolutionary Diversity and Ecology of Endemic Small Mammals of Southeastern Alaska with Implications for Land Management Planning, W. Smith, (2003 in preparation).

Maintaining Wildlife Habitat in Southeastern Alaska: Implications of New Knowledge for Forest Management and Research, T. Hanley, et al, (2003 in preparation).

Management of Hemlock-Spruce Forests in Southeast Alaska for Multiple Values, M. McClellan, (2003 in preparation).

The Effects of Partial Cutting on Stand Structure and Growth, and Forest Plant Communities of Western Hemlock-Sitka Spruce Stands in Southeast Alaska, R. Deal, 1999.

Potential Management of Young-Growth Stands for Understory Vegetation and Wildlife Habitat in Southeastern Alaska, T. Hanley, (2003 in preparation).

Understory Vegetation Development Following Commercial Thinning in Southeast Alaska: Preliminary Results From the Second-Growth Management Area Demonstration Project, R. Zaborske, et al, 2002.

The Effects of Partial Cutting on Forest Plant Communities of Western Hemlock-Spruce Stands in Southeast Alaska, R. Deal, 2001.

Predator Abundance and Predation of Artificial Nests in Natural and Anthropogenic Coniferous Forest Edges in Southeast Alaska, T. DeSanto, 2001.

Comparing Deterioration and Ecosystem Function of Decay-Resistant and Decay-Susceptible Species of Dead Trees., P. Hennon, et al, 2002.

Assessment of Silvicultural Systems for Maintaining Old-Growth Conditions in the Temperate Rainforest of Southeast Alaska, M. McClellan, (2003 in preparation).

Silvicultural Alternatives to Clearcutting in the Old-Growth Forests of Southeast Alaska. In: Sustainable Production of Forest Products 2000, M. McClellan and R. Zaborske, 2001.

Effects of Alternatives to Clearcutting (ATC) on Invertebrate and Organic Detritus Transport From Headwaters in Southeastern Alaska. J. Musslewhite and S. Wipfli, (in press fall 2003).

Export of Invertebrates and Detritus From Fishless Headwater streams in Southeastern Alaska, M. Wipfli and D. Gregovich, 2002.

The Social Acceptability of Alternatives to Clearcutting: a Review of Literature with Specific Emphasis on Southeast Alaska, D. Clausen and R. Schroeder, (2003 in preparation).

Social Implications of Alternatives to Clearcutting on the Tongass National Forest, J. Burchfield, et al, 2003.

Hunter Demand for Deer on Prince of Wales Island, Alaska: An Analysis of Influencing Factors, R. Mazza, 2003.

F. Social

Introduction

This analysis of social information in the Affected Environment and Environmental Consequences section of the Roadless Area Conservation FEIS (Roadless FEIS) focuses on the roadless rule's potential effects on Alaska. The Roadless FEIS presents social information in regard to regional or community economies, recreation and subsistence. Roadless areas and wilderness in Alaska hold legitimate, significant, and sometimes different values (e.g., intrinsic and option to name a few) to a wide segment of the American public for whom interest or a sense of "ownership" are not affected by distance or political boundaries. Thus, unlike economic and subsistence, social issues may equally "affect" a potentially and relatively larger number of people outside of Alaska.

Analysis Approach

This analysis uses the two documents—the Roadless FEIS (USDA 2000) and the accompanying Charnley and Langer (2001) Socioeconomic Specialist Report (SSR)—as a baseline for determining (1) whether new information (published after these documents) is important to a greater understanding of environmental consequences of the alternatives, and (2) whether the new information would likely change the effects in Alaska disclosed in the Roadless FEIS that affect a reasoned decision among alternatives. Key new information sources reviewed include (1) recent Forest Service research publications on the American public's values, objectives, beliefs, and attitudes regarding forests and grasslands and community viability and adaptability; and (2) recent 2000 Census Bureau population estimates. Where possible, the information has been reviewed in terms of its continued accuracy and relevance.

Nature of Existing Information

Much of the existing social information in the Roadless FEIS focuses on the effects of alternatives in economic (i.e., jobs and income), recreation (i.e., ROS classes and developments), and subsistence (access and productivity) terms. The scope and breadth of social information and issues in the Roadless FEIS and the SSR are necessarily broad. Much of the information is more qualitative than quantitative and not always specific (or directly linkable) to Alaska. Thus, in the social investigation apart from consideration of economics, recreation, and

subsistence, it is often only possible to address the assumptions of the analysis rather than the conclusions. Further, it is often not possible to validate assumptions beyond the large-scale trends discussed in the Roadless FEIS analysis.

Issues to be Addressed

Following the format of both the Roadless FEIS and the SSR, this analysis of social information focuses on five areas—(1) demographic trends, (2) balancing demands, (3) active and passive forest management, (4) non-timber forest products, and (5) dependent communities.

Issues Not Addressed

Because economics, recreation, and subsistence are discussed separately elsewhere, they are not specifically addressed in this section to avoid unnecessary duplication.

Analysis of Roadless FEIS and SSR

Because the Roadless FEIS so directly replicates the structure and information of the SSR, this analysis considers the two documents to be one and the same for all practical purposes. Accordingly, the information analyzed follows the organization in the Roadless FEIS and SSR: (1) demographic trends, (2) balancing demands, (3) active and passive forest management, (4) non-timber forest products, and (5) dependent communities. Much of the information pertains to Alaska in a general rather than specific sense.

Demographic Trends

Existing information describes the relationship between population trends and public use of national forest lands, including conflicting demands. In summary, the nation's population is expected to continue to become increasingly concentrated in urban areas. Most large urban areas are located away from roadless areas, resulting in a disproportionately high amount of use for those few nearby roadless areas. Although rural areas in general have and will continue to decline in population, counties containing National Forest System (NFS) lands are often increasing in population, due in part to the natural amenities of the public lands and people seeking a better quality of life. Population in rural counties with NFS lands grew some 35 percent for the nation as a whole between 1980 and 1999. New residents can be expected to place increasing demands on NFS for recreation and amenity values. On the other hand, population growth, combined with economic growth, leads to increasing demands for natural resources. Conversion of non-Federal lands from undeveloped to developed uses will further add to demands for forest uses, although there is a concurrent shift in public interest away from commodity purposes for NFS lands.

By inference, roadless areas in Alaska would face a disproportionately low amount of use from nearby residents. Although population in Alaska boroughs with NFS lands grew at a pace (61 percent between 1980 and 1999) that is faster than the rate for counties outside Alaska with NFS lands, the total change in such population is less than 50,000 new residents (Hobbs and Stoop 2002).

No significant problems with demographic trends are apparent in either the Roadless FEIS or SSR, and there do not appear to be any new implications concerning effects on the Tongass. Although exact figures in the discussion of demographic trends could be updated, it is not expected that conditions have changed so significantly or are outside of reasonable trend estimation error that they would alter either assumptions or conclusions of the Roadless FEIS. For example, the projected 2000 national population was 278.5 million and the 2000 census estimated that the 2000 population was actually 281.4 million (Hobbs and Stoop 2002), or a difference of about one percent. Other “assumptions,” such as the fact that the nation’s population is expected to be increasingly concentrated in urban areas are also confirmed. Hobbs and Stoop (2002) report that the percent of population in a metropolitan status grew from 77.5 percent in 1990 to 80.3 percent by 2000. And, in 2000, Alaska continues to have the lowest population density, about 1.1 persons per square mile. The portion of Alaska’s population that resides in non-metropolitan areas remained nearly constant between 1990 (41.1 percent) and 2000 (41.5 percent) (Hobbs and Stoop 2002).

Balancing Demands

The Roadless FEIS and SSR discuss the balancing of public demands for different forest uses. In short, one of the central questions in the public debate over NFS roadless area management is how to balance commodity and non-commodity uses. Whereas many people once valued national forests primarily as sources of commodities (i.e., timber, minerals, water, rangeland), the majority now values them primarily for recreation, ecological, and scenic values. Similarly, research suggests that the public places more value on non-commodity values than commodity values. Nevertheless, most people believe in multiple-use in some form and that NFS land benefits should not come at the expense of long-term forest health and environmental quality. Opinions vary by region, with higher concern about protecting forest dependent communities in the Western states.

There is no new information that significantly changes or invalidates the effects analysis contained in the Roadless FEIS and SSR. In general, the contentions in the SSR are supported by subsequent USDA Forest Service survey research results (Shields et al. 2002). For example, in reference to the 2000 Revision of the USDA Forest Service Strategic Plan, Goal 2 (provide a variety of uses, values, products, and services for present and future generations by managing within the capability of sustainable ecosystems), the nation as a whole considers allowing diverse uses to be an important and appropriate role for NFS lands. Proceedings of a recent conference on non-timber forest products suggest there

are similar concerns for balanced resource use among a segment of the Alaskan population (Alaska Boreal Forest Council 2001).

Active and Passive Forest Management

Existing information in the Roadless FEIS and SSR suggests that, like the range of interests in balancing demands for forest uses, there are also different views about what kind of natural environment people want to see on NFS lands and how best to achieve it (i.e., “active” versus “passive” forest management). People who advocate active forest management (management is necessary to achieves desired outcomes) are more likely to support road construction and timber harvest in roadless areas. People who advocate passive forest management (letting nature take its course) are more likely to support a prohibition on road construction and timber harvest in roadless areas.

No new information or implications for the alternatives could be found to either support or refute the general findings of the SSR regarding general or Alaska specific public preferences for active or passive forest management. While Shields et al. (2002) reported findings that tend to confirm the general desirability of multiple forest uses as an objective or *end*, it does not address preferences for *means* to achieving that end. There is no new evidence that public positions or attitudes on the passive-active management issue have changed.

Non-timber Forest Products

Existing information in the Roadless FEIS and SSR describes non-timber forest products (NTFP)—including wild food plants, medicinal plants and fungi, floral greenery and horticultural stocks, plants used for fiber and dyes, chemical plant extracts, and firewood—and their importance to people. For example, the traditional way of life of many American Indian and Alaska Native Tribes involves gathering and using NTFPs from their natural surroundings. In addition to their treaty, subsistence, and recreational values, NTFPs have gained increasing commercial importance since the mid-1980s. Growing markets for NTFPs make it safe to assume that demand for these products will continue to rise in the coming years, increasing harvest pressure on NFS lands. A disproportionate number of NTFPs harvesters are rural and urban poor. The influx of new residents near NFS lands has upset traditional or customary tenure “rights” for harvesting NTFPs for subsistence and other cultural uses. Because NTFPs are economically valuable, and can generally be taken from forests while leaving the forests structurally and functionally intact, these types of products have the potential to provide opportunities for the sustainable economic use of forests. Such opportunities may be particularly important for residents of forest-dependent communities who have suffered lost jobs and revenues due to declining timber sales on public lands. Nevertheless, NTFPs are better viewed as a supplementary source of income, than as a substitute for employment in the timber industry. Roads and timber harvest create openings and disturbance that benefit some populations of NFTP, and harm others. Harvest pressure on

NTFPs is likely to be greatest in the areas that are closest to roads, and to be less in areas that are more remote.

Outside of the context of economics and subsistence, no new information could be found that would question the general findings of the SSR regarding the extent or value of NTFP in Alaska. It may be reasoned that the alternatives may have mixed benefits and impacts to different segments of the Alaska population as discussed in the Roadless FEIS.

Dependent Communities

Public perceptions of forest dependency may be contentious, as well as whether and how the USDA Forest Service should assist forest dependent communities. According to existing information in the Roadless FEIS and SSR, nationwide, timber related employment has remained about as constant as manufacturing and more stable than other agricultural and fisheries employment. However, many small communities are vulnerable to overall change because much of their economies are tied to timber related activity. In Alaska, communities with more diverse economies are more stable, but areas with proportionately high resource use employment and USDA Forest Service involvement tend to be less diverse. The link between sustained timber yields and community stability is ambiguous. Macroeconomic forces beyond local control often are at work, and even flows of timber are generally not attained.

The presence of desirable environmental amenities, and especially the types supplied by public lands, can contribute to an area's population and economic growth. Concepts of community "resiliency"—a function of population size, economic diversity, attractiveness and surrounding amenities, strong leadership, and other factors such as community residents' ability to work together and be proactive toward change—are replacing the more traditional concept of "dependency" as a useful consideration in resource management. Larger and less isolated communities with more economic diversity tend to be more resilient.

Alaskan communities identified in the Roadless FEIS as "potentially affected" by the roadless rule's prohibitions on timber harvest and road construction include Coffman Cove, Craig, Hoonah, Klawock, Metlakatla, Petersburg, Thorne Bay, and Wrangell (Charnely and Langner 2001).

Two new studies were identified that bear on this issue though neither changes the assumptions or trends assumed in the Roadless FEIS.

Shields et al. (2002) reported that Americans believe that providing natural resources to dependent communities is a somewhat important role of the USDA Forest Service, and that this belief is slightly more prevalent among non-metropolitan than metropolitan residents.

Haynes (2003) computed composite measures of forest dependency based on population density, lifestyle diversity, and economic resiliency using the general direction of Montreal Process, specifically Indicator 46 that addresses the “viability and adaptability to changing economic conditions, of forest-dependent communities, including indigenous communities.” Of 3,110 counties in the nation, 837 were classified as exhibiting characteristics suggesting low viability and adaptability, including two Alaskan census areas: Prince of Wales-Outer Ketchikan and Wrangell-Petersburg. All of the above-identified communities are located within these two census areas.

Areas of Potential New Information

Due to the relatively short time period since the publication of the Roadless FEIS and the SSR, new, relevant information is scarce and does not refute the original assumptions and conclusions of the Roadless FEIS related to the social topics addressed above.

The annual Tongass Forest Plan monitoring and evaluation reports for fiscal years 2000 (USDA 2001) and 2001 (USDA 2002) do not address the above topics and so provide no new direct social information other than for local and regional economies, recreation and tourism, and transportation. The same may be said for the Tongass Land Management Plan Final Supplemental Environmental Impact Statement for Roadless Area Evaluation for Wilderness Recommendations (USDA 2003).

Public Comments

Some people commented on the July 15, 2003 proposed rule that the importance of roadless areas for future generations and the intrinsic value to citizens is knowing that roadless areas in the Tongass National Forest are protected. For them, the importance of including the Tongass National Forest in the roadless rule is to ensure the quality of life for residents through a healthy, intact ecosystem that supports subsistence, commercial fishing and tourism. Other people commented that the Tongass National Forest should be exempted from the rule because it adversely impacts Southeast Alaskan communities by diminishing timber harvest opportunities, adversely affecting local business viability, jobs, then schools and programs as families leave to find jobs elsewhere. In at least one natural resource dependent community, full employment has been replaced by unemployment of over 80 percent resulting in increased crime, domestic violence, and drug and alcohol abuse. Comments tended to stress the importance of local considerations and statewide concerns that are unique to the Tongass National Forest such as the lack of infrastructure (roads and power lines) and the limited private ownership of lands in Southeast Alaska.

These comments are similar to those regarding social effects that are summarized in the Roadless FEIS Vol. 3, pages 135 - 157, and more specifically for the Tongass National Forest on pages 193 - 195, therefore no significant new information or circumstances have been presented.

References Cited or Otherwise Considered

Alaska Boreal Forest Council. 2001. Proceedings: Hidden forest values. The first Alaska-wide nontimber forest products conference and tour. Gen. Tech. Report PNW-GTR-579. Portland, OR: US Department of Agriculture, Forest Service, Pacific Northwest Research Station, 150 pp.

Alaska Department of Labor and Workforce Development. 2002. "The 2010 employment outlook." Trends. May. P.7.

Charnley, Susan and Linda Langner. 2001. Socioeconomic specialist report. USDA Forest Service roadless area conservation final environmental impact statement. US Department of Agriculture, Forest Service, Washington Office, Washington Office. January.

Haynes, Richard W. 2003. Assessing the viability and adaptability of forest-dependent communities in the United States. Gen. Tech. Report PNW-GTR-567. Portland, OR: US Department of Agriculture, Forest Service, Pacific Northwest Research Station, 33 pp.

Hobbs, Frank and Nicole Stoops. 2002. Demographic trends in the 20th century. Census 2000 special reports. US Department of Commerce, Bureau of Census, 163 pp.

Kruger, Linda E. In press. Social science contributions to Tongass land management planning. US Department of Agriculture, Forest Service, Pacific Northwest Research Station, 34 pp.

Shields, Deborah J.; Martin, Ingrid M.; Martin, Wade E.; and Haefele, Michelle A. 2002. Survey results of the American public's values, objectives, beliefs, and attitudes regarding forests and grasslands: A technical document supporting the 2000 USDA Forest Service RPA Assessment. Gen. Tech. Report RMRS-GTR-95. Fort Collins, CO: US Department of Agriculture, Forest Service, Rocky Mountain Research Station, 111 pp.

US Department of Agriculture. 2003. Tongass land management plan revision. Final supplemental environmental impact statement. Roadless area evaluation for wilderness recommendations. Volume I: Final SEIS. R10-MB-481a. Forest Service.

US Department of Agriculture. 2002. Tongass national forest annual monitoring evaluation report for fiscal year 2001. R10-MB-458. Forest Service. May.

US Department of Agriculture. 2001. Tongass national forest annual monitoring evaluation report for fiscal year 2000. R10-MB-431. Forest Service. April.

G. Minerals

I. Summary of key assumptions, trends, and estimated effects as disclosed in the Roadless FEIS

The Roadless FEIS notes that 13 mineral deposits have been identified on the Tongass NF (Vol.1, 3-375). These all fall in the locatable minerals category which are primarily entitled by the 1872 mining laws. Basically this means that unless specifically withdrawn from mineral entry, NFS lands are open for such activity. Such activities include prospecting, exploration and development necessary to locate and develop economic mineral claims. Designated wildernesses on the Tongass are withdrawn from mineral activities except those areas with prior existing rights that have been kept current. The Roadless FEIS categorized the locatable minerals program as non-discretionary activities. Active mining is currently underway for gold, silver, zinc, and lead. Future mining developments are likely if prices remain high enough to support Alaska's high exploration, development, and production costs. As noted above, the FEIS notes exploration and development of locatable mineral resources are non-discretionary activities, thus reasonably necessary activities associated with the exploration, development and production of valuable mineral deposits cannot be prohibited by the Agency.

Leasable minerals, in particular geothermal resources, could be affected if roadless prohibitions are applied to the Tongass. The Roadless FEIS did not specifically identify such resources on the Tongass, but a small number of them do exist. The Roadless FEIS includes a lot of detail for National Forests which have leasable minerals because of the potential issues associated with such. As noted above, the Tongass has a very small amount of leasable mineral potential.

II. Summary of relevant new information

Various assessments of mineral resources have been conducted and reported on over the years for the Tongass. The Tongass Final SEIS provides the most current summation of these resources and includes various cites as recent as 2002 (*Mineral Resources of the Chichagof and Baranof Islands Area, Southeast Alaska* by Bittenbender et al., 1999, and *Mineral Assessment of the Stikine Area, Central Southeast Alaska* by Still et al., 2002). The Tongass has over 100 mineral deposit areas which have been sorted in various ways over the years. The 13 deposit areas included in the Roadless FEIS are a subset of the various sorts. Collectively, the potentially new information provides additional detail associated with the mineral resources, but as the Roadless FEIS notes, minimal affects are expected because reasonably necessary activities cannot be prohibited by the Forest Service.

References Cited or Otherwise Considered

Tongass Forest Plan FEIS, May 1997.

Tongass Forest Plan FEIS, Record of Decision, May 1997.

Tongass Forest Plan FEIS, Record of Decision, April 1999.

Tongass Land and Resource Management Plan, May 1997.

Roadless Area Conservation FEIS, Volume 1, November 2000.

Roadless Area Conservation, Minerals and Geology Specialist Report, R.J. Gauthier-Warinner, Geologist, November, 2000.

Tongass Forest Plan Final SEIS Roadless Area Evaluation for Wilderness Recommendations, February 2003.

Tongass Forest Plan Final SEIS Roadless Area Evaluation for Wilderness Recommendations, Record of Decision, February 2003.

H. Forest Health

References Cited or Otherwise Considered

Tongass Forest Plan FEIS, May 1997.

Tongass Forest Plan FEIS, Record of Decision, May 1997.

Tongass Forest Plan FEIS, Record of Decision, April 1999.

Tongass Land and Resource Management Plan, May 1997.

Roadless Area Conservation FEIS, Volume 1, November 2000.

Roadless Area Conservation, Forest Management Specialist Report, M. Williams, November, 2000.

Roadless Area Conservation, Landscape Analysis and Biodiversity Specialist Report, J. Martin, et al., November, 2000.

Tongass Forest Plan Final SEIS Roadless Area Evaluation for Wilderness Recommendations, February 2003.

Tongass National Forest Annual Monitoring and Evaluation Reports for Fiscal Years 1999, 2000, 2001 & 2002.

I. Karst

References Cited or Otherwise Considered

Tongass Forest Plan FEIS, May 1997.

Tongass Forest Plan FEIS, Record of Decision, May 1997.

Tongass Forest Plan FEIS, Record of Decision, April 1999.

Tongass Land and Resource Management Plan, May 1997.

Roadless Area Conservation FEIS, Volume 1, November 2000.

Roadless Area Conservation, Minerals and Geology Specialist Report, R.J. Gauthier-Warinner, Geologist, November, 2000.

Tongass Forest Plan Final SEIS Roadless Area Evaluation for Wilderness Recommendations, February 2003.

Karst Management and Implementation Review, Final Report of the Karst Review Panel, Thomas Aley, et al., December 2002.

Tongass National Forest Annual Monitoring and Evaluation Reports for Fiscal Years 1999, 2000, 2001 & 2002.

J. Water Quality

References Cited or Otherwise Considered

Tongass Forest Plan FEIS, May 1997.

Tongass Forest Plan FEIS, Record of Decision, May 1997.

Tongass Forest Plan FEIS, Record of Decision, April 1999.

Tongass Land and Resource Management Plan, May 1997.

Roadless Area Conservation FEIS, Volume 1, November 2000.

Roadless Area Conservation, Physical Resources Specialist Report, R. LaFayette, November, 2000.

Tongass Forest Plan Final SEIS Roadless Area Evaluation for Wilderness Recommendations, February 2003.

Tongass National Forest Annual Monitoring and Evaluation Reports for Fiscal Years 1999, 2000, 2001 & 2002.

K. Interdisciplinary Team

The following people participated in the core team that prepared this report. Other resource specialists who participated in this interdisciplinary review are listed in the appropriate resource reports.

Randy Coleman, Legislative Coordinator, Regional Office, Juneau

Lynn Humphrey, Recreation Planner, Regional Office, Juneau

Jan Lerum, Regional Planner, Regional Office, Juneau

Larry Lunde, Planning Staff Officer, Tongass National Forest, Ketchikan

Pat Reed, Regional Social Scientist, Regional Office, Anchorage

Betsy Rickards, Regional Environmental Coordinator, Regional Office, Juneau

Guy Robertson, Regional Economist, now with Policy Analysis, Washington, DC