TONGASS NATIONAL FOREST
LAND AND RESOURCE MANAGEMENT PLAN AMENDMENT

Reviewing Officer Response to Eligible Objections

NOVEMBER 28, 2016

USDA FOREST SERVICE
Alaska Region

Response to Objections
on the
2016 Tongass Forest Plan Amendment

Introduction

This is my response to the objections filed on the Draft Record of Decision (Draft ROD) and Final Environmental Impact Statement (FEIS) for the Amended Tongass National Forest Land and Resource Management Plan (Amended Plan). All objections to the Amended Plan have been consolidated into one set of issues, and the response I am rendering responds to those consolidated issues [36 CFR § 219.57(b)(1)].

The Draft ROD, FEIS, and Amended Plan were released on July 1, 2016, initiating a 60-day objection filing period under 36 CFR Part 219, Subpart B. I received a total of 27 eligible objections during the objection filing period. A list of the objectors, affiliation (if any), and the objection tracking numbers is provided in Appendix A of this response. The objections have been referenced throughout this response by the last four digits of the objection tracking numbers. I also received 11 requests from eligible interested persons. All eligible objectors and interested persons will receive notification of my response; it will also be available on the Tongass National Forest webpage at http://www.fs.usda.gov/goto/R10/Tongass/PlanAmend.

Background

In his Memorandum of July 2, 2013 [#1044-009], the Secretary of Agriculture (Secretary) directed the Forest Service to consider an amendment of the Tongass Forest Plan to evaluate lands available for timber harvest, focusing on young-growth timber stands, to promote a transition to young-growth management. The Tongass Advisory Committee (TAC) was chartered by the Secretary in February, 2014, to provide advice and recommendations for developing an ecologically, socially, and economically sustainable forest management strategy on the Tongass National Forest. The TAC's final recommendations served as the basis for the Amended Plan.

The Amended Plan is structured in five main parts:

Chapter 1: Provides an overview of the Amended Plan.

Chapter 2: Identifies the desired conditions for the Tongass National Forest and the forest-wide goals and objectives.

Chapter 3: Identifies the 18 Land Use Designations (LUDs) used in the Amended Plan and the management prescriptions (goals, objectives, and desired conditions) specific to those LUDs.

Chapter 4: Identifies the forest-wide standards and guidelines.

Chapter 5: Identifies the plan content that was developed under the 2012 Planning Rule, including plan components that will be used to guide future project and activity decision-making as the Amended Plan is implemented.

The Amended Plan is adaptive in that new knowledge and information may be analyzed and the Plan amended, if appropriate, at any time. It provides overall intent and guidance, but also allows the flexibility needed for the Tongass National Forest to work with the public and adapt management approaches in response to new information or changed circumstances.
All projects and activities must be consistent with the Amended Plan [16 U.S.C. § 1604(i)]. These projects and activities will be informed by site-specific analyses through an open, public process. This allows the latest science and public input to be considered at the time these project-level decisions are made, and will also provide important information for the Forest to consider as implementation of the Amended Plan is monitored and the assumptions made in the development of the Amended Plan are validated.

Review and Consideration of Objections

More than 1,000 individual issues were identified in my review of the objections received. These issues were consolidated in the 62 issue statements addressed in this response. The issues cover a broad range of resources and topic areas, including National Environmental Policy Act (NEPA) concerns about the purpose and need, range of alternatives, and response to comments; National Forest Management Act (NFMA) concerns about application of the 2012 Planning Rule, the use of the best available science in the planning effort, and forest plan standards and guidelines; various wildlife, watershed, and subsistence resource concerns; inventoried roadless areas; the effects of the Amended Plan on mineral development and renewable energy; the effects of the Amended Plan on the Southeast Alaska timber industry, including various economic aspects of the Tongass timber sale program; and climate change.

My review focused on ensuring that the Amended Plan is consistent with all applicable laws, regulations, and Forest Service policy, and on determining whether changes are warranted to improve the analysis and the Responsible Official's final decision based on the issues identified in all eligible objections and the input and dialogue from the objection resolution meeting (described in more detail below). Based on this review, I am instructing the Responsible Official to take certain actions prior to signing the Final ROD for the Amended Plan. These instructions are specifically identified in the last section of this response, titled "Instructions to the Responsible Official," and are also discussed in the relevant responses to the various issues.

After an initial review of the objections received, I held a meeting in Ketchikan, Alaska and in Juneau, Alaska to engage with objectors, discuss and clarify issues, agree on facts, and explore opportunities for resolution on four topic areas: renewable energy; young-growth transition; inventoried roadless areas; and wildlife habitat and the Tongass Conservation Strategy. I also allowed time for the objectors to identify other topic areas for discussion at the meeting. All objectors and interested persons participating in the meeting were given an opportunity to speak on each of the topic areas. While the discussions at the meeting helped to clarify my understanding of the issues and the remedies suggested by some of the objectors, we did not reach resolution on any of the objection issues. I appreciate the time offered by the objectors and interested persons, and the open, candid discussions, and encourage the objectors, interested persons, and the Responsible Official to continue to engage with each other as the Amended Plan is implemented.

The pre-decisional administrative review regulations in the 2012 Planning Rule state that I must issue a written response to the objections that sets forth the reasons for my response; however, this response need not be a point by point response [36 CFR § 219.57(b)(1)]. I have thoroughly reviewed the Draft ROD, FEIS, and planning record for the Amended Plan in light of the issues presented in the objections. I have also carefully considered all of the issues and suggested remedies in the eligible objections I received, along with the dialogue I heard at the objection resolution meeting. I believe that my response adequately addresses all objection issues.

My response includes a discussion addressing each of the 62 consolidated issues, concluding with the section titled "Instructions to the Responsible Official." Appendix A is a list of the eligible objections received. Appendix B includes attachments to my response that I considered in my review of the issues that were raised; these documents will be added to the planning record for the Amended Plan.

My response to the objections is the final decision of the U.S. Department of Agriculture (USDA) with regard to the objections [36 CFR § 219.57(b)(3)].

Beth G. Pendleton

November 28, 2016

BETH G. PENDLETON
Reviewing Officer

DATE

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Appendix A – List of Eligible Objectors

Appendix B – Documents to be Added to the Planning Record

National Environmental Policy Act (NEPA)

Analysis, Best Available Science, Purpose and Need, Range of Alternatives

Issue NEPA 1: Objectors contend the Draft ROD fails to explain the source of funds or level of investment needed to implement the Amended Plan, violating NEPA and the National Forest Management Act (NFMA). Specifically, objectors contend that achieving 30-50 MMBF of young-growth harvest a year in 10-15 years is dependent on the level of Forest Service investment in commercial thinning/young-growth management and industry investment in the equipment needed for harvesting and milling young growth, yet this has not been considered and disclosed and there is no guarantee that the necessary funds will be available. Objectors further contend that commercial thinning has not been fully tested as a silvicultural technique.

Objector(s): Alaska Power & Telephone Company (Objection #0006)
Jim Clark & Frank Murkowski (Objection #0008)
Ketchikan Chamber of Commerce (Objection #0013)
Resource Development Council (Objection #0018)
City of Wrangell (Objection #0021)
Alaska Miners Association (Objection #0031)
First Things First Alaska Foundation (Objection #0009)
Hyak Mining (Objection #0020)
Ketchikan Gateway Borough (Objection #0050)

Response

The Council on Environmental Quality's (CEQ) regulations implementing NEPA at 40 CFR §§ 1505.1 to 1505.3 outline agency decision-making procedures and do not include any requirement to disclose, provide, or discuss the source and level of public funding necessary for implementation of an alternative identified in an agency's decision. NFMA likewise does not include any provision requiring the Forest Service to disclose the public funding required to successfully implement a National Forest Land and Resource Management Plan (forest plan). However, the 2012 Planning Rule generally recognizes potential financial constraints by requiring the Responsible Official to ensure "the planning process, plan components, and other plan content be within the fiscal capability of the unit" [36 CFR § 219.1(g)].

The Plan Amendment FEIS outlines information from the Secretary of Agriculture's 2013 Memorandum [#1044-009, PR #769_01367[1]], which identifies actions expected to help the transition to young-growth harvest. The Memorandum specifically states, "[a]s soon as possible,

[1] PR = planning record, and I will refer to documents from that record throughout this response. It is important to note that the planning record has been updated since the close of the objection filing period. The document record numbers have changed (as a result of folders being broken up into individual documents and other updates), and this response refers to the updated planning record numbers. I recognize that several objectors have requested and obtained a copy of the planning record, and that the document numbers in that record will not match the updated record numbers. The Forest can provide a cross-walk between the old record numbers and the updated numbers, on request. In the alternative, the updated record is available upon request.

allocate staff and financial resources to planning young growth projects, ramping down old-growth sales and increasing investments in young growth" [Id.]. While neither NEPA nor NFMA require the disclosure of the financial resources needed to implement a selected alternative for a forest plan amendment, the Alaska Regional Office and the Tongass National Forest have worked diligently to respond to the Secretary's 2013 Memorandum with several significant human and financial resource investments, ensuring that the young-growth transition can occur within the expected fiscal capability of the Forest. For example, the Tongass National Forest has a Challenge Cost Share Agreement with the State of Alaska that includes the investment of approximately four million dollars, a portion of which will be spent to update old-growth and young-growth inventories on the Forest [see Attachment #B1[2]]. Additionally, the Pacific Northwest Research Station (PNW) is implementing a young-growth wood quality study, valued at two to three million dollars, to observe a subset of young growth, from which inferences regarding the type, quality, and volume of forest products that can be manufactured from young-growth trees can be made and projected to future harvests [Attachment #B2]. Finally, significant financial and human resources have been invested to support regional economic development planning, the development of citizen-driven collaboratives, and the additional research required to successfully transition the Tongass National Forest from predominantly old-growth to young-growth timber harvest.

The Draft ROD references the 2008 Tongass Forest Plan ROD, where then-Regional Forester Denny Bschor noted:

> The ultimate success of this effort [to transition to young growth], however, will depend on several factors, including investments by the timber industry in milling equipment designed for smaller young growth trees, integration of the industry to effectively process all products harvested from the Forest, and funding decisions made by Congress.

[Draft ROD, p. 15; see also 2008 ROD, pp. 49-50].

Regarding the contention that commercial thinning has not been fully tested as a silvicultural technique, the FEIS discusses the increased interest in commercial thinning, not only to improve timber, but also as a tool to improve wildlife habitat. The analysis acknowledges that there are "many unanswered questions" about how to produce high-quality forest products while maintaining biological diversity [FEIS, p. 3-334]. During the past decade, the Tongass National Forest has had a variety of projects that included commercial thinning, including:

- The 2008 Prince of Wales Island Commercial Thinning Study, which was intended to assess the effects of different commercial thinning prescriptions [FEIS, p. 3-334];

[2] During my review of the objections that were received on the Tongass Plan Amendment, I considered documents that I could not locate in the planning record compiled to date for the Amended Plan. These documents are included in Appendix B – Documents to be Added to the Planning Record, which includes an index of the documents and a link to each document. They are hereafter referred to as Attachments to that Appendix (Attachments B1 through B32). Not all of these documents are specifically cited in my response, but I have considered them in my review. The Responsible Official is instructed to add these documents to the planning record for the Amended Plan if they are not already included in that record.

- The 2011 Heceta Young Growth Commercial Thinning Timber Sale, logged in 2015 [Attachment #B3]; and
- The 2015 Big Buck Young Growth Timber Sale (previously called Dargon Point), which included both commercial thinning (20 percent) and young-growth clearcut (80 percent) [Attachment #B4].

In addition, the Forest Service has a long history of commercial thinning on other national forests across the nation that is supported by research, and the knowledge and concepts gained from that work are applicable to commercial thinning in Southeast Alaska.

Conclusion

There is no requirement to disclose the public investments needed to implement a forest plan amendment. Rather, the 2012 Planning Rule only requires the Responsible Official to ensure that the planning process, plan components, and other plan content be within the fiscal capability of the unit. I believe the Responsible Official has met this requirement. The Draft ROD acknowledges that successful achievement of the goals of the Amended Plan is dependent on investments and funding decisions made by Congress. The FEIS indicates that commercial thinning can be used to improve young-growth timber values, but acknowledges that there is still work to do to better understand how it can be more effective. The Forest Service has invested in research and young-growth projects to help assess options for young-growth forest management, and the information obtained from this work will help guide project-specific planning as the Amended Plan is implemented.

Issue NEPA 2: Objectors contend the Forest dismissed, ignored, or failed to adequately analyze and disclose credible scientific data, analysis, and opposing viewpoints, violating NEPA and NFMA. In particular, objectors contend the Forest failed to adequately consider:

- The suitability of second growth for economical harvest, milling, and markets (Catherine Mater data); growth and size characteristics of second growth (PNW data); and growth and yield data (Farr and Taylor data); and
- International and domestic expert opinions calling for an end to old-growth harvest on the Tongass.

Objectors contend this science regarding young-growth data was a key component of the Conservation Alternative [see FEIS, p. 2-17, Transition to Limited Young-Growth Logging in Five Years] that the Forest Service did not analyze in detail in the EIS. They contend that by doing so, the Forest Service failed to analyze a reasonable range of alternatives and failed to take a hard look at credible information, violating NEPA and NFMA.

Objector(s): GEOS Institute (Objection #0010)
GSACC, et al. (Objection #0042)
Earthjustice, et al. (Objection #0039)
Natural Resources Defense Council (Objection #0044)

Response

The CEQ regulations implementing NEPA at 40 CFR § 1502.9(a) state that "[t]he agency shall make every effort to disclose and discuss at appropriate points in the draft statement all major points of view on the environmental impacts of the alternatives including the proposed action." The regulations go on to state:

> Final environmental impact statements shall respond to comments as required in Part 1503 of this chapter. The agency shall discuss at appropriate points in the final statement any responsible opposing view which was not adequately discussed in the draft statement and shall indicate the agency's response to the issues raised.

[40 CFR § 1502.9(b)]. The regulations at 40 CFR § 1503.4(a) require an agency preparing a FEIS to "assess and consider comments both individually and collectively, and… respond by one or more of the means listed below, stating its response in the final statement."

In November 2015, Catherine Mater (Mater Engineering, Ltd.) submitted a report she believed indicated the Tongass National Forest could transition to young-growth timber harvest within five years. The planning record for the Amended Plan contains a February 16, 2016 letter from the Forest Supervisor to Ms. Mater [PR #769_01161], which discusses the rationale for why the Forest Service did not believe the information she submitted was sufficient to support such a rapid transition. It included a detailed assessment and interpretation of Ms. Mater's data as an appendix to the letter. The Response to Comments section of the FEIS also addresses components of Ms. Mater's report [FEIS, Appendix I, pp. I-21 to I-23]. Specifically, the Response notes that some of Ms. Mater's information "is not consistent with findings from PNW growth and yield studies" and that "a transition to young growth cannot only be based on modeled, available volumes" [Id., p. I-23]. The Response goes on to discuss the PNW's Cooperative Stand Density Study (the Farr plots), which provides information on the long-term growth response of thinned and unthinned even-aged stands at over 50 locations throughout Southeast Alaska, as well as the PNW's monitoring of the permanent plots established by R.F. Taylor in the 1920's, which provides additional long-term growth and yield data [Id.].

The Catherine Mater information formed the basis for what is known as the "Conservation Alternative." The FEIS refers to this proposed alternative as the "Transition to Limited Young-Growth Logging in Five Years" alternative, and provides the rationale for why that alternative was eliminated from detailed analysis [FEIS, pp. 2-7 and 2-8]. In addition, the planning record indicates that eight emails were exchanged between Forrest Cole and Niel Lawrence during the period of March 6, 2015 to April 30, 2015 regarding the Conservation Alternative, and the Response to Comments in the FEIS discusses the Conservation Alternative and how it and other proposals respond to the Secretary's Memorandum [FEIS, Appendix I, pp. I-21 to I-23].

With regard to the expert opinions advocating an end to old-growth harvest, objectors reference a letter from 78 scientists requesting that the President prepare a national old-growth policy, and a document from the Intergovernmental Panel on Climate Change identifying the need to conserve forest resources due to climate change concerns. Objectors contend these expressed expert opinions have been ignored, in violation of NEPA.

While this FEIS prepared for the Amended Plan is not the appropriate means to address the request for a national old-growth policy, the FEIS did address an immediate end to old-growth harvest. As stated in the FEIS, an immediate end to old-growth harvest "would result in substantial adverse effects on the timber industry of Southeast Alaska" and "would not meet the need for maintaining a viable industry that provides jobs and opportunities for Southeast Alaska residents" [FEIS, p. 2-6]. Thus, it would not be consistent with the Secretary's Memorandum and the purpose and need. The FEIS also addresses the climate change concerns with respect to old-growth harvest. See my responses to Issues CC 1, CC 2, and CC 3, below, for a discussion on the analysis of climate change effects completed for the Amended Plan. As stated in those responses, I believe the Forest adequately analyzed the climate change effects associated with the Amended Plan, and this analysis was consistent with law, regulation, and policy.

In sum, it is clear that the information referenced in the objections was considered, and that the Forest responded to the comments it received regarding this information and how it relates to the Plan Amendment and the transition to young-growth harvest on the Tongass. The Forest also considered the "Conservation Alternative" and an alternative that transitioned to young-growth harvest immediately, and provided adequate rationale for why these alternatives were not considered in detail.

Conclusion

In my opinion, the FEIS and planning record indicate that the Forest considered and disclosed the information referenced by the objectors, responded to comments received regarding this information, and provided a rationale for why the Conservation Alternative and the "Immediate End to Old-Growth Logging" alternatives were not considered in detail in the EIS. I believe these responses are adequate, and that they fully comply with NEPA and NFMA.

Issue NEPA 3: Objector contends the Forest Service failed to adequately consider and disclose the beneficial environmental and forest management effects of the LUD II designations and the release of withdrawn lands resulting from the Sealaska lands legislation [Public Law 113-291, Section 3002(b)(3)(ii)], and instead focused the analysis on the negative effects of the loss of old-growth. Objector further contends that its previous comments on this issue were not fully considered, and that further evaluation and discussion of the beneficial effects would have shown less need for the old-growth harvest restrictions proposed, such as the restrictions in Tongass 77 Watersheds, and otherwise better informed the decision on the Amended Plan.

Objector(s): Sealaska (Objection #0029)

Response

Evaluating the lands within the planning area is directed by the purpose and need for the Plan Amendment, which focused on reviewing lands within the planning area to determine suitability for timber production, especially young-growth stands. LUD II areas, which are designated by Congressional action, are classified as not suitable for timber production [Amended Plan, Appendix A, p. A-3]. Consequently, specifically analyzing the benefits produced by LUD II areas was outside the scope of the purpose and need for the Plan Amendment.

The FEIS considered the LUD II areas when disclosing the effects of the alternatives considered, finding that any potential effects of timber harvest would be indirect effects associated with activities in areas adjacent to LUD II areas [FEIS, p. 3-474]. The benefits of the new LUD II areas were implicitly considered by the interagency review team that reviewed the Sealaska land conveyance under Public Law 113-291. Appendix E to the FEIS documents the interagency recommendations for modifying the old-growth reserves that were fragmented by the land conveyance to Sealaska. The Response to Comments on the DEIS acknowledges that approximately 31,000 acres of newly designated LUD II areas were previously allocated to Development LUDs, and that these acres now contribute to the Tongass Conservation Strategy [Appendix I, p. I-54]. Moreover, the evaluation of the integrity of the Conservation Strategy in Appendix D of the FEIS states that forested non-development LUDs, including LUD II areas, contribute in a substantial way to the old-growth ecosystem [Appendix D, p. D-2].

Despite acknowledging these LUD II contributions to the Conservation Strategy, the protection of the Tongass 77 Watersheds from old-growth harvest was still considered appropriate. This is due to the recommendations of the TAC and recognition that the Tongass 77 Watersheds, along with watersheds in LUD II status, are the pillar of commercial, sport, and subsistence wild salmon harvest in the region and provide a large contribution to the Southeast Alaska economy [FEIS, Appendix I, p. I-56].

See also my responses to Issues WATER 1 and WATER 2, below.

With regard to the release of the withdrawal of lands pursuant to the Alaska Native Claims Settlement Act (ANCSA), the NFS lands encumbered by the withdrawal remained subject to Forest Service administration under applicable laws and regulations until the withdrawal was "released" in Public Law 113-291. These lands were managed from the time of the original withdrawal under ANCSA as directed in the Forest Plan. The ability of the Forest Service to enter contracts, grant leases, permits, rights-of-way, or easements was not affected by the existence of the ANCSA withdrawal, and the proceeds derived from such activities were placed in escrow until any selection and conveyance of the withdrawn lands occurred [Section 2, Public Law 94-204, 43 U.S.C. § 1613 note]. Thus, offering timber sales from the lands encumbered by the withdrawal where allowed under the Tongass Forest Plan was not otherwise prohibited by the withdrawal. The release of the withdrawal by Public Law 113-291 did not, therefore, affect how these lands were already managed under the Forest Plan, and any benefit resulting from the removal of this encumbrance is purely ministerial.

Conclusion

I believe the Forest adequately considered the benefits of the additional designation of LUD II areas, and these contributions to the old-growth ecosystem did not reduce the need to protect Tongass 77 watersheds from old-growth harvest.

Issue NEPA 4: Objectors contend the Forest Service interpreted the purpose and need for the Amended Plan too narrowly, restricting the range of alternatives considered and analyzed in violation of NEPA, NFMA, and APA. Objectors further contend that the Tongass Five-Year Review was used to support the narrow purpose and need, but that other important economic aspects of the Review (fisheries, recreation, and tourism) were not considered. Specifically, objectors contend the narrow purpose and need and inadequate range of alternatives:

- Limited the alternatives considered to those that include the same timeline for transition out of old-growth harvest, the same projected timber sale quantity (PTSQ), continued application of the export policy, identical renewable energy provisions (including biomass provisions), and identical changes to the transportation management direction;
- Did not provide the Responsible Official a clear choice among meaningful differences in alternatives;
- Prioritized providing timber over other resource needs required by NFMA (ecological, economic and social sustainability), and based this in part on an undefined "viable timber industry," inaccurate information on how this industry relates to the regional economy, and the needs of just two timber companies at the expense of other social, economic, and ecological sustainability needs;
- Did not allow for the reasonable identification of an environmentally preferred alternative;
- Did not adequately provide for plant and wildlife viability;
- Led to dismissal of a "no old-growth harvest" alternative that was arbitrary and unsupported; and
- Considered factors in the purpose and need for the Amended Plan (such as litigation and collaboration) without adequate rationale.

Objector(s): Earthjustice, et al. (Objection #0039)
GSACC, et al. (Objection #0042)

Response

Direction regarding the range of alternatives to be considered in an environmental document is at 40 CFR § 1502.14, and CEQ has provided more information in its *Forty Most Asked Questions*. Questions 1a and 1b specifically provide information about the range of alternatives:

1a. What is meant by "range of alternatives" as referred to in Sec. 1505.1(e)?

The phrase "range of alternatives" refers to the alternatives discussed in environmental documents. It includes all reasonable alternatives, which must be rigorously explored and objectively evaluated, as well as those other alternatives, which are eliminated from detailed study with a brief discussion of the reasons for eliminating them… A decisionmaker must not consider alternatives beyond the range of alternatives discussed in the relevant environmental documents. Moreover, a decisionmaker must, in fact, consider all the alternatives discussed in an EIS.

1b. How many alternatives have to be discussed when there is an infinite number of possible alternatives?

> For some proposals there may exist a very large or even an infinite number of possible reasonable alternatives. For example, a proposal to designate wilderness areas within a National Forest could be said to involve an infinite number of alternatives from 0 to 100 percent of the forest. When there are potentially a very large number of alternatives, only a reasonable number of examples, covering the full spectrum of alternatives, must be analyzed and compared in the EIS. An appropriate series of alternatives might include dedicating 0, 10, 30, 50, 70, 90, or 100 percent of the Forest to wilderness. **What constitutes a reasonable range of alternatives depends on the nature of the proposal and the facts in each case.**

(emphasis added) [*Forty Most Asked Questions* at https://ceq.doe.gov/nepa/regs/40/].

The objectors contend that the Forest Service did not consider and explore a reasonable range of alternatives. I disagree. The Amended Plan was developed in accordance with the 2012 Planning Rule, which states that:

> Plan amendments may be broad or narrow, depending on the need for change, and should be used to keep plans current and help units adapt to new information or changing conditions. The responsible official has the discretion to determine whether and how to amend the plan.

[36 CFR § 219.13(a)]. The range of alternatives considered for the Amended Plan was driven by the purpose and need, which was tied to direction provided by the Secretary of Agriculture [PR #769_01367] and the need for change identified in the FEIS [pp. 1-4 through 1-8, see also Appendix I, p. 9]. This need for change was based on several factors, one of which was the information obtained during the Five-Year Review of the 2008 Forest Plan [FEIS, p. 1-7; see also p. 1-9]. The Notice of Intent (NOI) to prepare an EIS for the Amended Plan stated that the analysis "will also evaluate other changes suggested in the 5-year review" [79 Fed. Reg 30075; PR #769_00046]. The FEIS describes how the Five-Year Review was conducted, and provides a summary of the public comments that were received during the Review [p. 1-7]. It also discusses how the Review factored into the purpose and need for the Amendment:

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

The FEIS Response to Comments explains that "[t]he purpose and need does not respond to changed conditions and circumstances in terms of other multiple uses because changes that have occurred and will occur in these areas are generally well within the range of changes anticipated by the 1997 Revision and the 2008 Amendment" [FEIS, Appendix I, pp. I-15 to I-16]. The

Response to Comments includes additional information about the scope and scale of the amendment [Id., pp. I-24 through I-26]. This does not mean that the Forest did not consider fisheries, recreation, and tourism to be important; rather, the Forest concluded that the existing plan direction related to these resources was sufficient.

The Secretary's Memorandum [PR #769_01367] focuses on the transition of the timber industry from its reliance on old-growth harvest to primarily young-growth harvest, but the Secretary's interest in all the multiple uses of the Forest is also affirmed in the Memorandum, which states:

> This strategy will maintain and restore the Forest's clean water, abundant fish, healthy populations of wildlife, and scenic beauty while sustaining deep-rooted community and cultural ties to the land and providing jobs in the woods.

The Secretary's Memorandum provides several of the sideboards for the alternatives considered, and, as stated in the FEIS, the "scope of the plan amendment is narrow because it is an amendment, not a revision, and the range of alternatives in the DEIS concentrate solely on the need for change as documented in the 5/27/14 NOI and the refined Purpose and Need…" [FEIS, Appendix I, p. I-12].

Objectors contend the Forest Service should not have considered litigation and the results of various collaborative efforts on the Tongass as factors that were considered in the need for change. I disagree. As stated in the FEIS, management of the Tongass National Forest continues to be challenging due to a number of factors, including administrative and judicial proceedings [FEIS, p. 1-4]. Harvest of old-growth trees continues to be very controversial, and litigation hinders the ability of the Forest to accomplish the objective of providing a reliable timber supply. The Forest Service has engaged the timber industry, conservation groups, communities, federally-recognized Tribes and Alaska Native Corporations, and representatives of the State of Alaska in an effort to find practical solutions for the timber industry, and these efforts led to the "Transition Framework." This Framework was developed as a strategy for developing economic opportunities in renewable energy, forest restoration, fisheries and mariculture, tourism and recreation, and subsistence, and the goal was to conserve the Tongass National Forest while providing economic opportunity and stability to Southeast Alaska communities [FEIS, p. 1-6]. The Secretary's Memorandum is an outgrowth of this Transition Framework; it was entirely appropriate for the Forest to identify the circumstances that led to its development as factors supporting the need for change and the Amendment to the Tongass Forest Plan.

Objectors are correct in stating that all the action alternatives include a PTSQ of 46 MMBF and other similarities; however, there are clear distinctions between the alternatives. Tables 2-17 and 2-18 in Chapter 2 of the FEIS [pp. 2-44 to 2-46] display those differences, which are discussed in more detail on pages 2-15 through 2-39. These include differences in the locations (LUDs) where old-growth and young-growth harvest would be allowed, and the methods of harvest or silvicultural treatments. The speed at which the transition to young growth would occur also varies between the alternatives. These may not appear to be the "significant" differences the objectors believe should be included, but given the narrow scope of the amendment and the sideboards provided by the Secretary's Memorandum, they do represent clear differences.

With regard to whether a "no old-growth" harvest alternative should have been considered, the FEIS explains why that alternative was eliminated from detailed study [FEIS, p. 2-6, and Appendix I, p. I-18]. As stated in the FEIS, this alternative "would result in substantial adverse effects on the timber industry of Southeast Alaska" and "would not meet the need for maintaining a viable timber industry that provides jobs and opportunities for Southeast Alaska residents" [FEIS, p. 2-6]. The Response to Comments also explains why an immediate "no timber harvest" alternative to mitigate climate change was not included [Appendix I, p. I-126].

With regard to the objectors' contention that the purpose and need and range of alternatives did not allow for the reasonable identification of an environmentally preferred alternative, the CEQ regulations implementing NEPA at 40 CFR § 1505.2(b) require that, in cases where an EIS has been prepared, the ROD identify all alternatives that were considered, "specifying the alternative or alternatives which were considered to be environmentally preferable." CEQ's *Forty Most Asked Questions* (Question 6a) provides additional guidance:

> What is the meaning of the term "environmentally preferable alternative" as used in the regulations with reference to Records of Decision? How is the term "environment" used in the phrase?
>
> The Council recognizes that the identification of the environmentally preferable alternative may involve difficult judgments, particularly when one environmental value must be balanced against another. The public and other agencies reviewing a Draft EIS can assist the lead agency to develop and determine environmentally preferable alternatives by providing their views in comments on the Draft EIS. Through the identification of the environmentally preferable alternative, the decisionmaker is clearly faced with a choice between that alternative and others, and must consider whether the decision accords with the Congressionally declared policies of the Act.

The Responsible Official identified Alternative 4 as the environmentally preferable alternative [Draft ROD, p. 11], although the Draft ROD does not explicitly provide a rationale for why he believes this alternative was the environmentally preferable alternative. As the CEQ guidance clearly states, the decision to pick one alternative over another as the environmentally preferable alternative involves difficult judgments. For many analyses, the no action alternative is considered to be the environmentally preferable alternative. However, for this Amended Plan, the No Action Alternative (Alternative 1) would not be environmentally preferable because it continues the direction from the 2008 Forest Plan, which includes a much greater amount of old-growth harvest and a longer transition period. As the Draft ROD does not provide the Responsible Official's rationale for his identification of Alternative 4 as the environmentally preferable alternative, I will direct him to provide that rationale in the Final ROD for the Amended Plan.

With regard to whether the purpose and need and range of alternatives provide for plant and wildlife viability, see my response to the Wildlife issues below. In particular, see my response to Issue WLF 5 for a full discussion of whether the Amended Plan provides for the viability of species on the Tongass National Forest. As stated in that response, the record indicates that the Forest conducted a thorough and careful consideration of the Tongass Conservation Strategy and species conservation in light of the alternatives considered for the Amended Plan.

Conclusion

Given the 2013 Secretary's Memorandum, the purpose and need for the Amended Plan was narrow, but did not preclude a reasonable range of alternatives. That range may not have been as broad as the objectors desired, but the FEIS adequately explains why other alternatives were not considered in detail.

As discussed above, the Responsible Official appropriately identified the environmentally preferable alternative in the Draft ROD, but did not provide rationale for why he believed that alternative (Alternative 4) was the environmentally preferable alternative. I am directing him to provide that rationale in the Final ROD for the Amended Plan.

Issue NEPA 5: Objectors contend the Selected Alternative does not meet the purpose and need for the Amended Plan because it would not achieve a transition away from old-growth harvest in the timeframe directed by the Secretary of Agriculture, and would instead increase old-growth harvest levels, in conflict with the Secretary's Memorandum.

Objector(s): Natural Resources Defense Council (Objection #0044)
Audubon (Objection #0041)

Response

The Secretary's Memorandum indicates that the transition to "more ecologically, socially, and economically sustainable forest management is a high priority for USDA, the Forest Service, and the Tongass National Forest" [PR #769_01367, p. 1]. As stated in the Memorandum:

> USDA's goal is to effectuate this transition over the next 10 to 15 years, so that at the end of this period the vast majority of timber sold by the Tongass will be young growth. This timeframe will conserve old growth forests while allowing the forest industry time to adapt.

The Memorandum also states that "USDA is equally committed to doing its part to ensure that the communities within and adjacent to the Tongass National Forest are economically vibrant," and that "we must do this in a way that preserves a viable timber industry that provides jobs and opportunities for residents of Southeast Alaska" [Id.]. The Memorandum expressly recognizes that a successful transition to young-growth forest management is dependent on retaining some industry expertise and infrastructure, stating:

> To accomplish the transition to a timber program based primarily on young growth, it is important to retain the expertise and infrastructure of the existing industry so businesses can quickly re-tool. These businesses are fundamental to both the young growth and restoration components of the future timber program, and to the economic vitality of the region. Such an approach requires a reliable supply of economically viable timber, with the old growth component decreasing over time while the young growth component increases.

[Id., p. 2]. The FEIS outlines how the transition will occur under the Selected Alternative:

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

[FEIS, p. 2-34]. This timeline is repeated in the Draft ROD [p. 6]. In sum, based on the preceding five-year average, by Year 15 the majority of timber sold by the Tongass is expected to be young growth under the Selected Alternative, and by Year 16, full transition to young growth is expected to occur. I believe this meets the timeframe in the Secretary's July 2013 Memorandum, and it also responds to the goal expressed in the Memorandum "to ensure that the communities within and adjacent to the Tongass National Forest are economically vibrant." As stated in the Memorandum, "[t]hese two goals must go hand in hand" [PR #769_01367, p. 1].

With regard to the contention that the old-growth harvest allowed in the Amended Plan conflicts with the Memorandum, the Secretary did not envision an immediate or complete end to old-growth harvest. His Memorandum states:

> To ensure a smooth transition, the Forest Service will continue to offer a supply of old growth timber while increasing the supply of young growth to provide industry in Alaska the opportunity to develop new markets, learn new skills, and acquire new equipment. The continuation of limited sales of old growth timber is essential to maintain the existing industry until young growth can efficiently be processed.

[Id., p. 2]. As stated above, the Memorandum recognizes that a successful transition to young-growth forest management is dependent on retaining some industry expertise and infrastructure, and that "[s]uch an approach requires a reliable supply of economically viable timber, with the old growth component decreasing over time while the young growth component increases" [Id.].

Conclusion

In my opinion, the Selected Alternative is consistent with the purpose and need for the Amended Plan and with the goals expressed in the Secretary's Memorandum.

Issue NEPA 6: Objector contends the Forest Service violated NEPA by not properly considering or analyzing the proposed State Alternative. Objector further contends the State Alternative was a viable alternative compliant with federal law, even if it proposed a longer transition time.

Objector(s): State of Alaska (Objection #0035)

Response

The CEQ regulations implementing NEPA at 40 CFR § 1502.14(a) state that agencies shall "[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, **briefly** discuss the reasons for their having been eliminated" (emphasis added).

As stated in the Draft ROD and FEIS, the State of Alaska proposed an alternative that was modeled and analyzed extensively before it was removed from detailed consideration [Draft ROD, p. 10; FEIS, p. 2-5; see also Appendix B, p. B-16]. The FEIS provides the rationale for why the State's alternative was not analyzed in detail, stating that transition could not be achieved in 10 to 15 years and the alternative would not increase the transition speed from current management direction. In sum, the modeling results of the State's alternative indicated that the transition would require just over 30 years to complete (a timeframe very similar to Alternative 1, the No Action Alternative) [FEIS, pp. 2-5 and 2-6]. Based on the modeling results, the Responsible Official concluded that the State's alternative would not meet the purpose and need; therefore, it was not carried forward and considered in detail in the DEIS and FEIS [Draft ROD, p. 10; see also FEIS, p. 2-6].

Conclusion

The State's alternative was modeled, which demonstrates it was considered before it was removed from detailed consideration in the DEIS and FEIS [Appendix B, p. 16 and Table B-2.6; PR #769_00841]. In my opinion, the rationale provided by the Responsible Official for why he did not consider the State's alternative in detail in the DEIS and FEIS is reasonable and supported by the record, in accordance with NEPA.

Issue NEPA 7: Objectors contend the Amended Plan will not comply with the Secretary's Memorandum, a stated purpose for the Amendment, because it will not provide sufficient economic volume for an integrated timber industry. Objectors further contend that the overly narrow purpose and need statement led to an inadequate range of alternatives, violating NEPA and APA. Specifically, objectors contend:

- The Draft ROD only committed to providing timber, not economic timber.
- The Draft ROD failed to commit to providing operators a 3-year supply of economic timber, a concept previously supported by the Forest Service.
- The Draft ROD's transition to a PTSQ of 46 MMBF per year is a major change in policy that was not adequately explained in the DEIS.

Objector(s): Alaska Power & Telephone Company (Objection #0006)
Alcan Forest Products (Objection #0007)
Jim Clark & Frank Murkowski (Objection #0008)
Ketchikan Chamber of Commerce (Objection #0013)
Resource Development Council (Objection #0018)
City of Wrangell (Objection #0021)
Alaska Miners Association (Objection #0031)
First Things First Alaska Foundation (Objection #0009)
Hyak Mining (Objection #0020)
Ketchikan Gateway Borough (Objection #0050)
Alaska Forest Association (Objection #0027)
Trust Land Office (Objection #0030)

Response

The NOI published in the *Federal Register* [79 Fed. Reg. 30074] provided notice that the Forest Service would be preparing an EIS to evaluate an amendment to the 2008 Tongass Forest Plan that satisfies the following purpose and need statement:

> … to describe the effects of making proposed changes the Tongass Forest Plan to accomplish the transition to young growth management as provided in the Secretary's Memorandum. The Forest Service will evaluate which lands should be available for timber harvest, especially young growth timber stands, and any proposed changes to standards and guidelines and other management direction to promote and speed the transition to young growth management while maintaining a viable timber industry in Southeast Alaska. It will also evaluate other changes suggested in the 5-year review.

[PR #769_00046]. The NOI was later corrected in the *Federal Register* [80 Fed. Reg. 35935, PR #769_01405] to clarify that the Plan Amendment would be subject to the pre-decisional administrative review (objection) process provided at 36 CFR Part 219. The aforementioned Secretary's Memorandum, *Addressing Sustainable Forestry in Southeast*, provided overarching guidance for both notices by stating:

> To conserve the Tongass National Forest under the principles of the Multiple-Use Sustained Yield Act of 1960, Tongass Timber Reform Act and other relevant statutes, we must speed the transition away from old-growth timber harvesting and towards a forest industry that utilizes second growth – or young growth – forests. Moreover, we must do this in a way that preserves a viable timber industry that provides jobs and opportunities for residents of Southeast Alaska… USDA's goal is to effectuate this transition over the next 10 to 15 years so that at the end of the period the vast majority of timber sold by the Tongass will be young growth.

[PR #769_01367, p. 1]. The Memorandum provides further discussion regarding the particular importance of certain components of the transition by stating:

> To accomplish the transition to a timber program based primary on young growth, it is important to retain the expertise and infrastructure of the existing industry so businesses can quickly re-tool… Such an approach requires a reliable supply of economically viable timber, with old growth component decreasing over time while young growth component increases… The continuation of limited sales of old growth timber is essential to maintain the existing industry until young growth can efficiently be processed.

[Id., p. 2]. In sum, the Memorandum provided the overall vision for effectuating the transition of the Tongass National Forest timber program from old- to young-growth timber harvest. In the short term, in the absence of sufficient young-growth volume to meet average annual demand, a mix of old-growth and young-growth volume will be offered. Over time, the old-growth share will decrease as more young growth becomes available to harvest. This is expected to be a 10-15 year time period of transition that allows existing industry to re-tool and/or allows new operations to develop, so that a viable industry is maintained. The Plan Amendment EIS, as described in both NOIs, was prepared to analyze the effects of amending the Tongass Plan to promote and speed the transition to young-growth management. It also addresses other changes suggested in the Five-Year Review of the Forest Plan (most notably, the need to make the development of renewable energy resources more permissible). The Secretary's Memorandum, NOIs, DEIS, FEIS, and Draft ROD are inextricably linked by the overarching purposes of transitioning the timber program, maintaining a viable timber industry, and making renewable energy projects easier to implement.

The DEIS and FEIS further articulate the purpose and need for the Plan Amendment:

> Amending the Forest Plan originates from the July 2013 memo from the Secretary of Agriculture directing the Tongass National Forest to transition its forest management program to be more ecologically, socially, and economically sustainable, while also being responsive to comments in the Five-Year Review… The purpose of this plan amendment is to (1) review lands within the plan area to determine suitability for timber production, especially young-growth timber stands, (2) identify the projected timber sale quantity (PTSQ) and the sustained yield limit, (3) establish plan components (e.g., standards and guidelines) for young-growth forest management and renewable energy development to guide future project decision-making, and (4) consolidate modifications made to the Forest Plan since its approval.

[FEIS, p. 1-8]. Objectors contend the purpose and need was overly narrow, thereby resulting in a limited range of alternatives. Their underlying concern is that the transition away from old-growth timber harvest and towards a forest industry that predominantly utilizes young growth is premature and will not support a viable timber industry in Southeast Alaska.

The purpose and need, as discussed above, is concise, focused, and well-supported by overarching USDA direction provided to the Forest Service. In addition to these foundational documents, Secretary Vilsack further publically-reinforced USDA's intent by noting:

> Today, I am outlining a series of actions by USDA and the Forest Service that will protect old-growth forests on the Tongass while preserving forest jobs in Southeast Alaska. I am asking the Forest Service to immediately begin the planning for the transition to harvesting second growth timber while reducing old-growth harvesting over time.

[July 2013 USDA News Release, *Secretary Vilsack Announces Steps to Conserve 17-Million Acre Tongass National Forest by Transitioning to Sustainable, Second Growth Forest Management*, Attachment #B5]. The actions outlined in the Secretary's Memorandum are carried forward in the Amended Plan by focusing on conserving Tongass National Forest old growth while supporting a forest products industry that continues to provide jobs and opportunities in Southeast Alaska. The mechanisms for transitioning from old- to young-growth timber harvest are embodied in the subcomponents of the purpose and need statements that focus on the need to review lands, develop the PTSQ, establish plan components, and consolidate other plan modifications.

To comply with the Tongass Timber Reform Act (TTRA) and support the transition, the Forest Service's Pacific Northwest Research Station (PNW) produced long-term timber demand projections, as summarized in *Tongass National Forest Timber Demand: Projections for 2015 to 2030* [Daniels, et al. (2016), PNW-GTR-934, PR #769_01365]. Daniels, et al. (2016) is the fifth such analysis, over the past 25 years, which assists forest planners in meeting statutory requirements for seeking to meet planning cycle demand for Tongass National Forest timber. In short, Daniels, et al. projected that the demand for Tongass National Forest timber will range from 46 MMBF to 76 MMBF over the next 15 years [Id., p. 48]. Notably, PNW's timber demand projections are considered highly-influential science and are based on solid economic theory, peer-reviewed methodology, and rigorous and objective analysis.

The CEQ regulations implementing NEPA at 40 CFR §1502.14(a) state that agencies shall "[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated." In total, ten alternatives were considered as part of the Plan Amendment alternative development process, including those recommended in scoping and other comments and those developed internally by the Plan Amendment interdisciplinary team (IDT) [FEIS, pp. 2-5 through 2-40]. Five alternatives did not meet the purpose and need to accelerate the transition from old- to young-growth timber harvest while maintaining a viable industry, and were subsequently eliminated from further consideration. The remaining five alternatives moved forward and were considered in detail in the FEIS. These alternatives were designed to provide a reasonable range of forest management approaches to meet the purpose and need. Alternative 2, in particular, was developed to maximize the percentage of volume coming from young growth as early as possible while minimizing any potential effects on the Tongass Conservation Strategy, and to alleviate plan-related impediments to the development of renewable energy. Notably, the Selected Alternative was based largely on the TAC's recommendations [see, for example, FEIS, p. 2-33]. The TAC included members of the forest products industry.

See my responses to Issues NEPA 4 and NEPA 5, above, as they respond to related issues including contentions about an overly narrow purpose and need statement, an inadequate range of alternatives, and the Amended Plan not satisfying the purpose and need. See also my responses to Issues TM 1, TM 4, and ES 6, below, for a discussion on whether the Amended Plan will provide sufficient volume for the timber industry in Southeast Alaska. In particular, my response to Issue TM 4 recognizes the challenges with providing economic timber sales in Southeast Alaska.

The Amended Plan includes goals, objectives, standards and guidelines, and other plan components to effectuate a successful transition to young-growth harvest on the Tongass, including forest-wide goals and objectives for the Timber resource, which state:

> Provide about three years supply of volume under contract to local mills and then establish NEPA-cleared volume to maintain flexibility and stability in the sale program.
>
> Review the timber sale program and work with the state and other partners to implement changes that will keep an "economic timber" perspective throughout the process and monitor the implementation of these reforms to ensure they are consistently employed across the Forest.

[Amended Plan, p. 2-5; objectives O-TIM-01 and O-TIM-02, p. 5-13]. Most importantly, the Forest has committed to monitoring implementation of the Amended Plan with stakeholders to determine if the goals of the Plan are being met [see, for example, Amended Plan, p. 5-4].

The objectors contend the DEIS, FEIS, and Draft ROD inadequately explained the "new policy" of the PTSQ. This concept is defined in the Forest Service 2012 Planning Rule directives [FSH 1909.12-2015-1, Section 64.32]. The PTSQ is a subset of the projected wood sale quantity, which is an estimate of the volume of all timber and other wood products that are expected to be sold during the plan period for any purpose (except salvage harvest or sanitation harvest) on all lands in the plan area. The PTSQ is the estimated quantity of timber meeting applicable utilization standards that is expected to be sold during the plan period, consistent with other plan components. It is also based on the planning unit's fiscal capability and organizational capacity. The PTSQ is neither a target nor a limitation on harvest, and is not an objective unless the Responsible Official chooses to make it an objective in the plan [FSH 1909.12-2015-1, Section 60.5]. Both the DEIS and the FEIS discuss this concept [FEIS, p. 3-342; DEIS, p. 3-306, 3-307].

As explained in the Draft ROD [p. 28]:

> To maintain a viable timber industry, this Amendment includes plan components to provide for a sufficient amount of old-growth "bridge timber" to allow industry to re-tool for processing young growth. Plan components constituting timber objectives (O-TIM-01, O-TIM-02) were added to the plan to accelerate the transition to primarily young-growth harvest while ensuring sufficient old growth is available during the transition to supply a transitioning industry. Daniels, et al.'s baseline model and range of potential demand scenarios informed the construction of these plan components, resulting in the integration of the projected 46 MMBF average annual demand for Tongass timber to ensure that the goal of the transition within 10 to 15 years is achievable.

The Forest received comments regarding timber objective O-TIM-01, contending that the Forest violated TTRA's requirement to seek to provide a supply of timber that meets the annual market demand and the market demand for each planning cycle because the objective of 46 MMBF was an annual timber target [Appendix I, p. I-36]. As stated in the Response to Comments, the Daniels, et al. long-term planning demand projection is not equivalent to meeting annual demand and does not result in a fixed target of 46 MMBF each year. Moreover, the Draft ROD states that the PTSQ is neither a goal nor a target; it is also not a ceiling. It is an estimate [Draft ROD, p. 29]. The Morse Methodology will continue to be used to comply, year to year, with the annual demand portion of the TTRA requirements. The timber objectives were modified in the Amended Plan to clarify this [Appendix I, p. I-37].

Conclusion

Based on my review of the FEIS and planning record, I believe the purpose and need for the Amended Plan was appropriately focused on the overarching purposes of transitioning the timber program, maintaining a viable timber industry, and facilitating the development of renewable energy resources. The Secretary's Memorandum, Plan Amendment NOIs, DEIS, FEIS, and Draft ROD are clear regarding the overall purpose and need, and the purpose and need as described in these documents has remained consistent over time. At least ten alternatives were considered for the Amended Plan, with five of these receiving detailed consideration in the DEIS and FEIS. I believe the purpose and need led to a reasonable range of alternatives that were fully considered throughout the planning process, consistent with NEPA.

The PNW's long-term timber demand report informed the Plan Amendment process. Timber economists, with this report, formally projected 46 MMBF to 76 MMBF in annual demand for Tongass timber over the next 15 years. Their research is aligned with the stated USDA timeframe (10 to 15 years) for the transition. Of noteworthy importance, the total demand for Tongass timber varies based on projected scenarios, and 46 MMBF is the annual average of the projected demand in these scenarios.

The PTSQ of 46 MMBF is discussed sufficiently in the DEIS and Draft ROD, and the FEIS responds to the comments that were received indicating the concept was not clear. Through the Morse Methodology, the Forest Service seeks to build and maintain sufficient volume under contract to allow the industry to react promptly to market fluctuations. The Amended Plan demonstrates the Forest Service commitment to this goal by including a forest-wide objective "to include about three years supply of volume under contract… to maintain flexibility and stability in the sale program" [Amended Plan, p. 2-5].

Issue NEPA 8: Objectors contend the programmatic analysis (or deferred analysis approach) is not sufficient, and that necessary site-specific analyses have been left to future projects, violating NEPA and 40 CFR § 1500-1508 and precluding the Responsible Official's ability to make a reasoned decision. Specifically, objectors contend:

- The EIS should have considered landscape connectivity, locations of harvest units on the landscape, current conditions of those stands, the harvest prescriptions needed to advance those stands toward desired conditions, and information regarding young growth in protected areas;
- The EIS should have analyzed Prince of Wales wolf conservation needs instead of postponing this decision to a future point in time that may not provide for public involvement; and
- The EIS should have analyzed the cumulative effects on the Conservation Strategy.

Objector(s): GSACC, et al. (Objection #0042)
Audubon (Objection #0041)

Response

The CEQ provided guidance on the preparation of programmatic NEPA reviews, which assess the potential environmental effects of proposed policies, plans, or programs under which specific actions will be implemented based on subsequent, site-specific NEPA reviews tiered to the programmatic review (such as a project-specific NEPA document). This guidance is provided in the document titled *Effective Use of Programmatic NEPA Reviews* (December 18, 2014), which indicates:

- Programmatic NEPA reviews can provide a starting point for analyzing direct, indirect, and cumulative effects. Using programmatic NEPA reviews allows an agency to subsequently tier to this analysis, and analyze narrower, site- or proposal-specific issues;
- Programmatic NEPA reviews may serve to influence the nature of subsequent decisions; and
- Agencies may be able to make broad program decisions and establish parameters for subsequent analyses based on a programmatic review that adequately examines the reasonably foreseeable consequences of a proposed program, policy, plan, or suite of projects.

[Attachment #B6]. The FEIS for the Amended Plan is a programmatic analysis. As stated in the Plan Amendment FEIS:

> This FEIS evaluates which lands will be suitable for timber production, especially young growth timber stands, and any changes to management direction needed to promote and speed the transition to young growth management while maintaining a viable timber industry in Southeast Alaska… The scope of this analysis is limited to these changes.

[FEIS, p. 1-2]. Objectors contend that necessary site-specific analyses have been left to future project-level analyses. However, as noted above, the Plan Amendment FEIS is a programmatic review and does not identify specific "on-the-ground" proposals that can be meaningfully evaluated. In fact, one of the principle reasons for the Amended Plan, aside from establishing

old-growth harvest limits and a transition timeframe, was to develop standards and guidelines and other plan components for young growth, which will then guide future project-specific analyses and implementation.

Chapter 3 of the 2008 Tongass Forest Plan [pp. 3-57 through 3-62] identified standards and guidelines for the Old-Growth Habitat LUD. The forest-wide standards and guidelines for wildlife and wildlife habitat conservation were provided in Chapter 4 of the 2008 Plan [pp. 4-89 through 4-91]. The vast majority of these standards and guidelines did not change in the Amended Plan [see standards and guidelines for the Old-Growth Habitat LUD at pp. 3-56 to 3-61; forest-wide standards and guidelines for wildlife at pp. 4-82 to 4-94]. Appendix K of the 2008 Plan (carried forward in the Amended Plan) describes the criteria for changing boundaries of the old-growth reserves at the project level. These are especially meaningful criteria because they exemplify the distinction between programmatic and project-level analyses. Appendix K also states:

> Significant modifications to OGRs (e.g., in the case of a land exchange) require consideration of other factors outside the scope of this appendix. Factors include connectivity, size, and shape of the reserve, as well as basic assumptions behind the location of the reserves. Some activities (i.e., major land conveyance or substantial timber harvest in non-development LUDs) could significantly affect the integrity of the Conservation Strategy. In this case, an overall review of the effects on the Conservation Strategy would be necessary.

The FEIS and supporting analyses in the planning record consider the Tongass Conservation Strategy and the standards and guidelines for old-growth habitat and wildlife, including species of special interest such as the Alexander Archipelago wolf. This included detailed analyses of the potential effects of the Amended Plan on habitat important to the conservation of those species, and the associated biodiversity and functionality of wildlife habitat across the forest. The direct, indirect, and cumulative effects of the Amended Plan are evaluated and disclosed throughout Chapter 3 of the FEIS. These analyses are programmatic, but they consider the potential site-specific application of the various plan components for these species and any prey. For example, the FEIS [p. 3-230] evaluates the effects of the Amended Plan on Sitka black-tailed deer, an important native species as well as prey for the wolf. This analysis identifies the seasonal habitat requirements for deer and the associated expectations for habitat connectivity and overall habitat capability. The analysis of the effects of the Amended Plan on wolf consider recent efforts to assess population health and distribution, including emerging and conflicting science and/or opinions. These analyses and supporting data are consistent with the scale and scope of analyses conducted for other resource areas.

While the proposed modifications to some elements of the Tongass Conservation Strategy were not considered "significant," Appendix D includes an evaluation of the effects of the alternatives on the integrity of the Conservation Strategy. As stated in this analysis [FEIS, Appendix D, p. D-3], the scope of the review was to consider the proposed modifications to the contributing elements of the Conservation Strategy and how they might affect how well they function. However, the review also considered recent advancements in the fields of conservation science, landscape ecology, and the biological needs of specific species [Id.], as well as the current status

of land management on the Tongass, including projected verses actual timber harvest levels, ongoing GIS mapping updates, modifications to the Conservation Strategy since 2008, and external factors that may have affected the Conservation Strategy since 2008 [Id., pp. D-5, D-6].

While the proposed modifications to the Plan under Alternatives 2 through 5 have the potential to result in localized effects on the functioning elements of the Conservation Strategy, the review indicates that:

> [N]one of the alternatives, when considered in whole, would reduce the ability of the conservation strategy to maintain a functional and interconnected old-growth ecosystem across the planning area and the overall functioning of the conservation strategy in terms of its ability to maintain viable, well distributed populations of wildlife across the planning area would remain.

[Id., pp. D-20, D-21]. The review concludes that "the conservation strategy currently functions as intended and is expected to function regardless of which alternative is selected" [Id., p. D-5].

Conclusion

In my opinion, the analyses and documentation in support of the Amended Plan were conducted at the appropriate scale, and the Forest adequately considered the potential direct, indirect, and cumulative effects of the Amended Plan on the resources of the Forest, including old-growth habitat and wildlife.

Issue NEPA 9: Objectors contend the old-growth timber harvest restrictions in Tongass 77 Watersheds and Audubon/The Nature Conservancy (TNC) Conservation Priority Areas included in the Draft ROD were not disclosed or analyzed in the DEIS, prohibiting a detailed public review of these restrictions. Objectors further contend that these changes do not comply with the "no more clause" in Section 1326(a) of the Alaska National Interest Lands Conservation Act (ANILCA), and will have a negative effect on the available timber base and harvest feasibility. Objectors contend that these effects have not been adequately analyzed.

Objector(s): Alaska Power & Telephone (Objection #0006)
Jim Clark & Frank Murkowski (Objection #0008)
Ketchikan Chamber of Commerce (Objection #0013)
Resource Development Council (Objection #0018)
City of Wrangell (Objection #0021)
Alaska Miners Association (Objection #0031)
First Things First Alaska Foundation (Objection #0009)
Hyak Mining (Objection #0020)
Ketchikan Gateway Borough (Objection #0050)
Sealaska Corporation (Objection #0029)

Response

The objectors contend that the old-growth harvest restrictions in the Tongass 77 Watersheds and Audubon/TNC Conservation Priority Areas included in the Draft ROD were not disclosed or analyzed in detail in the DEIS. This, in the objectors' view, prevented public review of the information, requiring a supplement to the FEIS.

The CEQ regulations implementing NEPA at 40 C.F.R. § 1502.9(c)(1)(i) and (ii) state that agencies shall prepare supplements to either draft or final environmental impact statements if the agency makes substantial changes in the proposed action that are relevant to environmental concerns, or there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.

Appendix B of the Proposed Forest Plan (which accompanied the DEIS) included the draft TAC recommendations. The draft TAC recommendations, dated May 11, 2015, identified that "[t]he old growth timber base will be limited to the current definition of Phase 1 lands outside of TNC/Audubon conservation priority areas, T77 watersheds, and Inventoried Roadless Areas" [Proposed Plan, Appendix B, p. 8]. The DEIS stated that Alternative 5 is "based on the recommendations from the TAC…" [p. 2-31]. In addition, Appendix A of the Proposed Plan noted that old-growth stands within the Tongass 77 Watersheds and Audubon/TNC Conservation Priority Areas are "identified as NOT suitable for timber production" [Proposed Plan, Appendix A, p. 4]. Both the DEIS and the Proposed Forest Plan were subject to notice and comment and, in fact, there were a substantial number of comments on this topic [FEIS, Appendix I, p. I-57].

Although the manner in which this old-growth harvest restriction was displayed in the Proposed Forest Plan and DEIS could have been improved, this restriction, based on the draft TAC recommendations, was disclosed and analyzed in detail. The FEIS provided greater clarity once the issue was identified by the public comments received on the DEIS.

Objectors also contend that protection of the Tongass 77 Watersheds was made without complying with the "no more" clause of Section 1326(a) of ANILCA. This is not unlike the State of Alaska's contention in its objection that the inclusion of the Roadless Rule in the Amended Plan constitutes a withdrawal of federal land exceeding five thousand acres, in violation of Section 1326.

Section 1326(a) of ANILCA [16 U.S.C. §3213(a)] provides as follows:

> No future executive branch action which withdraws more than five thousand acres, in the aggregate, of public lands within the State of Alaska shall be effective except by compliance with this subsection. To the extent authorized by existing law, the President or the Secretary may withdraw public lands in the State of Alaska exceeding five thousand acres in the aggregate, which withdrawal shall not become effective until notice is provided in the Federal Register and to both Houses of Congress. Such withdrawal shall terminate unless Congress passes a joint resolution of approval within one year after the notice of such withdrawal has been submitted to Congress.

ANILCA does not define the term "withdrawal," but other federal land management statutes do. One such statute is the Federal Land Policy Management Act of 1976 ("FLPMA"), for which the term "withdrawal" means:

> Withholding an area of Federal land from settlement, sale, location, or entry, under some or all of the general land laws, for the purpose of limiting activities under those laws in order to maintain other public values in the area or reserving the area for a particular public purpose or program.

A withdrawal of public lands is an action that exempts the covered land from the operation of public land laws [*New Mexico v. Watkins*, 969 F.2d 1122, 1124 (D.C. Cir. 1992)].

Thus, under Section 1326(a) of ANILCA, the operative issue is whether the action taken exempts portions of the public land within the Tongass from the operation of the public land laws. Protecting certain watersheds in the Amended Plan does not exempt these lands from operation of the public land laws. Allocating land into protective status through a forest plan is an example of the Forest Service's statutory responsibility under NFMA to provide for the multiple use and sustained yield of the products and services of units of the National Forest System (NFS) [*Southeast Conference v. Vilsack*, 684 F.Supp.2d 135, 144 (D.D.C. 2010)]. Applying an agency regulation within a forest plan that protects and conserves the inventoried roadless areas of the Tongass also does not exempt these lands from operation of the public land laws. Instead, this protective designation is consistent with the agency's responsibility to plan for multiple uses of NFS lands [*Wyoming v. USDA*, 661 F.3d 1209, 1234-35 (10th Cir. 2011)] (holding the Roadless Rule consistent with USDA's multiple use authorities).

Conclusion

I believe that protection of the Tongass 77 Watersheds and Audubon/TNC Conservation Priority Areas and inclusion of the Roadless Rule in the Amended Plan does not violate the "no more" clause of ANILCA, Section 1326(a). Additionally, the information regarding the old-growth restrictions in the Tongass 77 Watersheds and Audubon/TNC Conservation Priority Areas included in the Draft ROD was adequately disclosed and analyzed in the DEIS and Proposed Forest Plan, and the public had the opportunity to provide comment on this topic. No substantial changes were made and no significant new information was identified to require a supplement to the FEIS completed for the Amended Plan.

Cumulative Effects

Issue NEPA 10: Objector contends the Forest Service did not adequately consider the effects of non-Forest Service management of adjacent non-NFS lands. Specifically, objector contends that the cumulative effects of all past, present, and future harvest on all land ownerships must be considered in order to ensure that necessary old-growth habitat on all of these lands is maintained for wildlife populations, particularly in light of climate change.

Objector(s): Eric Lee (Objection #0043)

Response

The CEQ regulations implementing NEPA at 40 CFR § 1508.7 define "cumulative impact" as follows:

> "Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

In accordance with NEPA, the FEIS for the Amended Plan considers and discloses the potential direct, indirect and cumulative effects on biodiversity and wildlife [FEIS, pp. 3-183 to 3-296]. In regards to cumulative effects, the FEIS discusses the analysis areas considered for the various resources and uses of the Tongass National Forest. For wildlife, the FEIS identifies the cumulative effects analysis area as "all of Southeast Alaska from Yakutat Bay southeast to the southeastern end of Alaska… although some analyses will be based on the area within the Forest boundary, depending on the availability and quality of available information" [FEIS, p. 3-3]. The FEIS indicates that the actions considered in analyzing the potential cumulative effects included past, present, and future timber harvest and road construction on NFS lands; past, present, and future timber harvest on private, State, and Native Corporation lands with the boundary of the Tongass National Forest; and various other projects, activities, or circumstances within or affecting the resources of the Tongass [pp. 3-4 to 3-5]. A complete list of the past, present, and reasonably foreseeable activities considered (including resources with overlapping effects) is provided in Appendix C of the FEIS. Page C-1 indicates that the wildlife analysis area included 4.8 million acres of non-NFS lands, including the changes to land status resulting from land conveyances such as the recent Sealaska land exchange and the proposed Alaska Mental Health Trust (AMHT) land exchange.

The FEIS discusses the cumulative effects on wildlife, and this analysis addresses wildlife viability across the landscape [pp. 3-286 to 3-296]. The FEIS acknowledges that activities on all land ownerships have the potential to negatively affect wildlife through habitat conversion, fragmentation, and disturbance. These habitat disturbances would primarily be associated with continued old-growth harvest and would potentially affect species for which this forest type is optimal habitat.

See my response to Issue CC 1, below, for a discussion of how climate change was considered in the planning process. The objector contends that there is no consideration of climate change in the Forest Service's *timber* policy. The consideration of climate change's effects on the resources of the planning area, as well as the Amended Plan's effects on climate change, applies to *all* Forest Service projects, not just timber projects. For additional information about climate change and carbon sequestration, see my responses to Issues CC 2 and CC 3, below.

Conclusion

In my opinion, the Forest adequately considered and disclosed the potential cumulative effects of timber harvest and associated activities on NFS, State, and Native Corporation lands on biodiversity and wildlife. The Forest also adequately analyzed effects related to climate change, and these analyses are consistent with current policy regarding climate change considerations in programmatic and project-level analyses.

Issue NEPA 11: Objector contends the EIS did not adequately consider the proposed AMHT land exchange. Specifically, objector contends:

- A successful transition to young growth is dependent upon the land exchange occurring, and the Forest Service needs to consider the long-term management intent for the lands it will acquire with the exchange; and
- Proper consideration of the proposed land exchange would have provided relevant information for the Interagency Old-Growth Reserve (OGR) review and prevented the need for an additional review of the OGR system after the exchange occurs, particularly with the location of the small OGR in Value Comparison Unit (VCR) 5570 that is on lands that will be conveyed to the Trust.

Objector(s): Trust Land Office (Objection #0030)

Response

The CEQ regulations implementing NEPA at 40 CFR §1502.13 state that an EIS "shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." In addition, the Forest Service NEPA Handbook states that "[t]he purpose and need statement defines the scope and objectives of the proposal. A well-defined purpose and need statement narrows the range of alternatives that may be developed…" [FSH 1909.15, Section 20, p. 10].

The NOI for the Plan Amendment identified the purpose and need for the Amendment, stating:

> The Forest Service will evaluate which lands should be available for timber harvest, especially young growth timber stands, and any proposed changes to standards and guidelines and other management direction to promote and speed the transition to young growth management.

[PR #769_00046]. The NOI did not reference the AMHT land exchange.

AMHT submitted comments during the scoping period for the Amendment, and these comments were considered and noted in the planning record. The record includes a spreadsheet documenting the comments received during scoping, and AMHT's comment was noted as "[i]dentifying the proposed exchange as an alternative in the forest plan amendment…" [PR #769_00051, Comment 233A]. While the potential AMHT land exchange was not included

as a separate alternative in the DEIS, it was identified as a reasonably foreseeable action [DEIS, p. 3-4]. Page 2-5 of the FEIS discusses why the land exchange was not an alternative analyzed in detail in the DEIS or FEIS:

> Comments suggested that the proposed Alaska Mental Health Trust Land Exchange be included as an action common to all alternatives in the plan amendment. In determining whether the proposed land exchange fits within the scope of the EIS, the Forest Service considered three types of actions: connected, similar, and cumulative actions (40 CFR 1508.25).
>
> The proposed land exchange is not a connected action (i.e., an action that is "closely related" to the proposal and alternatives, and provides a basis for evaluating their environmental consequences together). Connected actions automatically trigger other actions, they cannot or will not proceed unless other actions have been taken previously or simultaneously, or they are interdependent parts of a larger action and depend on the larger action for their justification.
>
> The proposed land exchange is not similar to the action being proposed in this plan amendment. For these reasons, the proposed Alaska Mental Health Trust Land Exchange is not analyzed in detail in an alternative.

[see also DEIS, p. 2-5; Draft ROD, p. 10]. The DEIS and FEIS both indicate that the AMHT land exchange was considered a reasonably foreseeable future action and was therefore considered and discussed in the EIS [see Chapter 3 of the FEIS, which includes an analysis of the cumulative effects on the affected resources]. Appendix C to the FEIS provides a comprehensive discussion of the projects and activities considered in the cumulative effects analyses for the various resources, and Table C-3 [p. C-23] in this Appendix identifies the "land adjustments" (including the AMHT land exchange) that could potentially affect the primary resource areas [see also Table C-2 on p. C-13].

With regard to the small OGR in VCU 5570, the FEIS indicates that the conveyance of land to Sealaska Corporation under Public Law 113-291 affected OGRs on Tuxecan Island, including an OGR in VCU 5570. As a result, an interagency review team met to address how that law affected this and other OGRs, and to recommend modifications to the affected OGRs. These modifications were included as an action common to all alternatives [FEIS, pp. 2-9 to 2-10]. It is not clear whether future adjustments to this OGR will be necessary if the proposed AMHT land exchange occurs. If an adjustment to this or any other OGR is necessary, that modification could take place as a forest plan amendment included as part of the Forest Service NEPA analysis and decision on the AMHT exchange. I am aware that legislation on the AMHT exchange was proposed in May 2016 [Senate Bill 3006]. If that legislation is passed, the Forest will need to consider any new information as a result of the legislation, including its effect on the OGR in VCU 5570, and take appropriate action, in accordance with the Forest Service NEPA Handbook at FSH 1909.15, Chapter 10, Section 18.1.

Conclusion

The FEIS, Draft ROD, and other documents in the planning record demonstrate that the AMHT land exchange was appropriately considered and disclosed in the cumulative effects sections of the analyses. Further review of the small OGR in VCU 5570 may be necessary if the AMHT

land exchange takes place, either during the Forest Service NEPA process for the exchange or as a consideration of new information if Senate Bill 3006 passes. The determination as to whether such a review is necessary will be made at the appropriate time.

I am directing the Responsible Official to update the discussion of the proposed AMHT land exchange in the Final ROD [see Draft ROD, pp. 33-34] to acknowledge that legislation has been introduced, but not yet passed [Senate Bill 3006 – titled *Alaska Mental Health Trust Land Exchange of 2016*, introduced on May 26, 2016].

Response to Comments

Issue NEPA 12: Objectors contend the Forest Service failed to adequately respond to the comments they provided, in violation of NEPA. Specifically, objectors contend the Forest Service failed to adequately respond to substantive comments, including, but not limited to, their comments and comments provided by other organizations and agencies regarding the need to:

- End old-growth harvest in a 15-year transition time;
- Evaluate the effects of ten-acre harvest of young growth within areas such as beach and estuary fringe and Riparian Management Areas (RMAs) on the Tongass Conservation Strategy; and
- Evaluate the Conservation Strategy and Prince of Wales (POW) deer and wolf populations.

In addition, objectors contend the method used to display the Forest Service responses to substantive comments [Appendix I of the Plan Amendment FEIS] is difficult to follow and does not allow a cross-reference back to specific comments provided by individuals and organizations, and that the planning record does not contain any annotated copy of the comments to demonstrate due consideration, in violation of NEPA and NFMA.

Objector(s): Audubon (Objection #0041)
GSACC, et al. (Objection #0042)
Trout Unlimited (Objection #0036)
Natural Resources Defense Council (Objection #0044)
State of Alaska (Objection #0035)

Response

The CEQ regulations implementing NEPA at 40 CFR § 1503.4 (Response to Comments) states:

> (a) An agency preparing a final environmental impact statement shall assess and consider comments both individually and collectively, and shall respond by one or more of the means listed below, stating its response in the final statement. Possible responses are to:

(1) Modify alternatives including the proposed action.
(2) Develop and evaluate alternatives not previously given serious consideration by the agency.
(3) Supplement, improve, or modify its analyses.
(4) Make factual corrections.
(5) Explain why the comments do not warrant further agency response, citing the sources, authorities, or reasons which support the agency's position and, if appropriate, indicate those circumstances which would trigger agency reappraisal or further response.

(b) All substantive comments received on the draft statement (or summaries thereof where the response has been exceptionally voluminous) should be attached to the final statement whether or not the comment is thought to merit individual discussion by the agency in the text of the statement.

The objectors contend the Forest Service did not adequately respond to their comments related to an end to old-growth harvest, the length of the transition, silvicultural practices, as well as evaluating the Tongass Conservation Strategy and POW deer and wolf populations. I believe the record indicates otherwise, as evidenced by the responses in Appendix I of the FEIS:

- Response discusses the purpose and need and transition timeline, indicating that "old-growth volume would continue to decrease until it reaches 5 MMBF…" [p. I-8].
- Response points out that the Secretary did not envision an end to old-growth logging, as made clear in his Memorandum [p. I-12].
- Response explains that "[a]n alternative that immediately eliminates old growth was analyzed during the 1997 Forest Plan Revision (Alternative 1). This analysis is an amendment to that revision and further consideration is not necessary…" [p. I-18].
- Response repeats that the Secretary did not envision an end to old-growth logging, quoting from his Memorandum that "[t]o ensure a smooth transition, the Forest Service will continue to offer a supply of old-growth timber…" [p. I-19].
- Response explains how the Plan Amendment accelerates the transition time from primarily old-growth harvest to primarily young-growth harvest from 32 years to 16 years, resulting in a reduction in the extent of old-growth forest harvest [p. I-28].
- Response includes a lengthy discussion about how the Tongass Conservation Strategy is functioning [pp. I-42 to I-55].
- Response provides information related to deer and wolf populations [pp. I- 81 to I-87].

In my opinion, the information in Appendix I demonstrates that the comments received on the DEIS were considered, and the responses provided were adequate.

The objectors also question the biological rationale for allowing ten-acre harvest of young growth within areas such as the beach and estuary fringe and RMAs. The FEIS acknowledges that allowing openings of "up to" ten acres "was to provide more economical offerings to allow a more rapid transition to young growth management," but also indicates the intent of allowing openings of up to ten acres was to "emulate the natural scale and distribution of disturbance

patterns on the Tongass (such as wind-thrown timber that creates gaps and patches, landslides that create corridors and gaps, mortality that naturally thins stands, etc.)" [FEIS, Appendix I, p. I-48]. The FEIS acknowledges that "most natural disturbance results in openings that are smaller than 10 acres," but points out that "wind events and landslides have created this type of landscape" [Id.].

The objectors imply that the ten-acre openings will jeopardize the Tongass Conservation Strategy. I disagree. The Amended Plan includes standards and guidelines that help maintain habitat in the beach and estuary fringe and RMAs. These include a 200-foot forested buffer in the beach fringe, the requirement that no more than 35 percent of the original harvested stand is harvested, and limiting entry to one time during the first 15 years of the transition [Amended Plan, pp. 5-8 and 5-11]. The Amended Plan identifies the desired condition for the beach and estuary fringe, stating that "[t]hese areas provide habitat and connectivity for wildlife" [p. 5-4]. In addition, the Amended Plan includes management approaches requiring that connectivity and other factors be considered during project-level planning to ensure that the function of these areas as contributing elements to the Tongass Conservation Strategy is maintained. For example, one management approach for the beach and estuary fringe is to "consider spatial and temporal conditions of adjacent landscapes" [Id., p. 5-8]. This management approach is repeated for riparian areas [Id., p. 10]. These standards and guidelines, desired conditions, and management approaches are plan components that must be applied to project-level activities. If any ten-acre opening proposed in the beach and estuary fringe or RMAs does not meet the desired condition or otherwise comply with applicable plan components, the opening will not be authorized. As a result, these areas will continue to provide habitat connectivity, forage opportunity, and snow interception, consistent with the expectations of the Conservation Strategy.

In regard to the objectors' overarching concern about how comments were tracked and responded to, the CEQ regulations implementing NEPA at 40 CFR § 1503.4(b) state:

> All substantive comments received on the draft statement (or summaries thereof where the response has been exceptionally voluminous) should be attached to the final statement whether or not the comment is thought to merit individual discussion by the agency in the text of the statement.

Additional guidance is provide in CEQ's *Forty Most Asked Questions*. Question 29a states:

> If a number of comments are identical or very similar, agencies may group the comments and prepare a single answer for each group. Comments may be summarized if they are especially voluminous. The comments or summaries must be attached to the EIS regardless of whether the agency believes they merit individual discussion in the body of the final EIS.

In discussing the public participation in the Plan Amendment process, the FEIS notes that:

> More than 165,000 comments were received during the DEIS comment period. These comments are summarized and addressed in [Appendix I], DEIS Comments and Responses. All comments received during the DEIS comment period are included in the Planning Record.

[FEIS, p. 1-13]. There is no requirement to cross-reference every summarized comment back to the specific comments provided from individuals and organizations. Due to the volume of comments received on the DEIS for the Plan Amendment, individual comments were identified, grouped, and summarized, and then these summaries were responded to in Appendix I of the FEIS. This is consistent with the regulations implementing NEPA and with CEQ's guidance with respect to those regulations.

Conclusion

The comments received on the Amended Plan were appropriately considered during the planning process, and the Forest Service response to those comments was adequate and consistent with NEPA regulations and CEQ guidance.

National Forest Management Act (NFMA)

Land Use Designations

Issue NFMA 1: Objectors contend the Amended Plan contains contradictory provisions in which forest lands deemed unsuitable for timber production are still contained in Development LUDs. They contend that lands not suitable for timber production, including lands in the Tongass 77 Watersheds, Audubon/TNC Conservation Priority Areas, and Old-Growth Habitat LUD, should not be located in Development LUDs that emphasize timber production, as this is confusing and will lead to misapplication during implementation of the Amended Plan.

Objector(s): Earthjustice, et al. (Objection #0039)

Response

As discussed below in my response to Issue TM 6, the suitability of land for timber production is a required plan component under the 2012 Planning Rule and was also required as part of land management plans developed under the 1982 Rule [36 CFR 219.7(e)(1)(v)]. However, there is no requirement in either the current or previous planning regulations that lands identified as suitable or not suitable for timber production be aligned with management area boundaries (which equate to LUDs in the Tongass Forest Plan).

Forest plans are required to identify where the lands suitable for timber production occur within the plan area. Appendix A of the Amended Plan clearly identifies the lands that are suitable and not suitable for timber production in the Development LUDs [p. A-5, item 3b]. For the Tongass 77 Watersheds, Audubon/TNC Conservation Priority Areas, and Old-Growth Habitat located in Phases 2 and 3 of the Tongass Timber Sale Program Adaptive Management Strategy that overlap Development LUDs, Appendix A is clear that old-growth forest in these areas is not suitable for timber production; only young-growth stands in Phases 1, 2, and 3 of the Tongass Timber Sale Program Adaptive Management Strategy (outside of inventoried roadless areas) are suitable for timber production. The determination that these lands are suitable for young-growth timber production is consistent with the requirements of NFMA and its regulations.

With regard to the long-term intent of these lands, the management of the Old-Growth Habitat LUD is addressed in the Amended Plan, and the Plan identifies the standards and guidelines and other plan components that apply to that LUD. The long-term intent of the management of the Tongass 77 Watersheds and Audubon/TNC Conservation Priority Areas is not as clear in the Amended Plan. With the exception of the reference to suitability for timber production in Appendix A, the TAC's recommendations (discussed below) to not allow old-growth harvest in these areas, and Appendix D to the TAC's recommendations (a map of the Tongass 77 Watersheds and Audubon/TNC Conservation Priority Areas), the Amended Plan does not discuss these areas. However, there is an implied, long-term intent for the management of the Tongass 77 Watersheds and Audubon/ TNC Conservation Priority Areas in the Draft ROD:

> Alternative 5 also incorporates TAC recommendations to protect certain watersheds known as the "Tongass 77" (T77) that have been identified by Trout Unlimited as high priority watersheds for protection due to their outstanding habitat values, fish production, and diversity of fish species present. In addition, the TAC recommended protection of "conservation priority areas" identified by The Nature Conservancy and Audubon Alaska (Albert and Schoen 2007). Old-growth harvest will not be allowed, but young-growth timber harvest will be allowed in some of these watersheds and conservation areas. Five years after approval of this Forest Plan Amendment, the Forest Service will conduct an internal scientific review in collaboration with a forest collaborative and other stakeholders to determine likely impacts to fish and wildlife habitat from young-growth timber projects that intersect with several of these high-value watersheds. In addition, the Forest Service will conduct monitoring with stakeholders five and ten years after approval to determine if young-growth goals are being achieved and adjust accordingly if they are not.

[Draft ROD, p. 6]. This wording in the Draft ROD indicates that the Selected Alternative incorporates the TAC's recommendations to protect the Tongass 77 Watersheds and Audubon/TNC Conservation Priority Areas by not allowing old-growth harvest in these areas. There is additional discussion in the FEIS about the treatment of these areas under the Selected Alternative [p. 3-128 and Appendix I, p. I-56].

The Tongass 77 Watersheds and the Audubon/TNC Conservation Priority Areas are not allocated to a specific forest plan management area or land use designation; therefore, as the Amended Plan does not provide any other specific direction for these areas, the existing forest plan direction for the underlying LUDs applies to these areas (with the exception of any old-growth harvest allowed in those LUDs, as the Amended Plan now identifies these areas as not suitable for old-growth timber production). This is supported by language in the TAC's final recommendations, in which the TAC defined its co-intent as a mandate to maintain the primary intent and objectives of each LUD and the standards and guidelines, while developing and applying forest management activities that will accelerate the transition to young-growth management [Amended Plan, Appendix B, p. 3]. However, this needs to be clarified in the Final ROD and/or Amended Plan.

These discussions in the Draft ROD and FEIS reference an intent to study the effects of young-growth harvest in the Tongass 77 Watersheds and Audubon/TNC Conservation Priority Areas by the end of the five-year period after the Final ROD for the Amended Plan. Presumably, if the

harvest of young growth does not adversely affect fish and wildlife populations, young growth in these areas will remain in the suitable timber base. If the study indicates that young-growth harvest does result in adverse effects on fish and wildlife populations, presumably the Forest will then review the Tongass 77 Watersheds and Audubon/TNC Conservation Priority Areas to determine whether a subsequent amendment to the Amended Plan is necessary. This intent should be clarified in the text of the Amended Plan where this study is referenced [p. 5-4].

Conclusion

The determination that young-growth stands in the Tongass 77 Watersheds, Audubon/ TNC Conservation Priority Areas, and Old-Growth Habitat LUD are suitable for timber production is consistent with the requirements of NFMA and its regulations. As discussed in the FEIS, young-growth harvest in these areas provides an opportunity to improve ecological function and habitat conditions for wildlife and fish, while producing some timber volume [Appendix I, p. I-56]. The intent of allowing young-growth harvest in these areas is clearly discussed in the FEIS and Draft ROD, and in Appendix A and B of the Amended Plan.

I do believe there is a need for greater clarity in the body of the Amended Plan and/or in the Final ROD regarding the intended long-term management of the Tongass 77 Watersheds and Audubon/TNC Conservation Priority Areas. Therefore, I am directing the Responsible Official to clarify the long-term management intent for these areas. This could be accomplished by:

- Adding a more thorough explanation to the Amended Plan and/or the Final ROD regarding how these lands will be managed when they overlap with Development and/or Non-Development LUDs; and/or
- Adding a more thorough explanation to the Amended Plan and/or the Final ROD regarding how the long-term management of these areas will be determined, based on the findings of the study of the effects of young-growth harvest in these areas on fish and wildlife populations referenced in the Draft ROD and FEIS.

Issue NFMA 2: Objector contends the Forest Service violated NFMA and NEPA by deleting the Transportation and Utility System (TUS) LUD in the Plan Amendment process, and that the Forest Service must complete a plan revision rather than a plan amendment to designate or eliminate a management area or geographic area from an existing forest plan. In addition, objector contends this change was not disclosed during scoping or in the DEIS for the Plan Amendment, and therefore the Forest Service did not provide an opportunity for public comment on the change, violating NEPA.

Objector(s): State of Alaska (Objection #0035)

Response

The 2012 Planning Rule, which implements NFMA, indicates that the Responsible Official may change management areas through a plan amendment [36 CFR § 219.13(a)]:

> The responsible official has the discretion to determine whether and how to amend the plan. Except as provided by paragraph (c) of this section [Administrative Changes], a plan amendment is required to add, modify, or remove one or more plan components or where one or more plan components apply to all or part of the plan area (including **management areas** or geographic areas) (emphasis added).

Objector references the 2012 Planning Rule at 36 CFR § 219.7(d) in its contention that the designation or elimination of a management area or geographic area from an existing forest plan requires a plan revision and cannot be completed with a plan amendment. I disagree. This section of the Rule, applicable to plan development or revision, specifies that a plan must have management or geographic areas. It does not restrict the ability of the Forest Service, through an amendment to a plan, to change management areas or geographic areas as indicated in the Rule at 36 CFR § 219.13(a). Changing management areas has been a longstanding practice of many plan amendments under the 1982 Planning Rule, and that practice was not changed with the 2012 Planning Rule. A plan revision is not required for such changes.

With regard to objector's contention that the TUS LUD change was not disclosed during scoping or in the DEIS for the Plan Amendment, this is not correct. While the DEIS did not specifically identify the need to adjust the TUS LUD as part of the purpose and need, it did identify the need to "make the development of renewable energy resources more permissible, including considering access and utility corridors to stimulate economic development in Southeast Alaska" [DEIS, p. 1-5]. The DEIS clearly indicated that the proposal to eliminate the TUS LUD was common to all action alternatives, stating:

> In addition, the Transportation and Utility Systems overlay LUD would be removed under Alternatives 2, 3, 4, and 5. The LUD management prescription would be replaced by plan components under Alternatives 2, 3, 4, and 5 and would provide management direction for renewable energy and transportation systems corridors.

The subsequent description of each of the action alternatives also indicated that renewable energy and transportation systems corridors plan components would be added to the Amended Plan under each of the action alternatives [see, for example, DEIS, p. 2-34].

Substantial comments were received on this issue during the comment period on the DEIS, including comments from the objector. The Forest's response to those comments was provided in the FEIS [FEIS, Appendix I, pp. I-107 through I-114]. I believe the record demonstrates an adequate consideration of the TUS LUD change, and it also demonstrates that the public had adequate opportunity to comment on the change.

Objector also contends that the TUS LUD is based on the locations of the transportation and utility rights-of-way Congress identified in Section 4407 of Public Law 109-59 (as amended), and that the Amended Plan deleted these areas without the authority to do so. While the Amended Plan no longer includes a TUS LUD, it does include plan components for Transportation Systems Corridors [Amended Plan, pp. 5-10 through 5-12]. The Amended Plan clearly indicates that this new plan direction replaces the TUS LUD direction in the 2008 Forest Plan [p. 5-10]. As stated in the Amended Plan, this Transportation Systems Corridors direction will apply to the rights-of-way identified in Section 4407 of Public Law 109-59:

> The purpose of the plan direction is to facilitate the availability of NFS land for the development of existing and future transportation system corridors such as those identified by the State of Alaska in the current version of the Southeast Alaska Transportation Plan and applicable laws (for example, **Section 4407 of P.L. 109-59**, Title XI of ANILCA, P.L. 96-487) (*emphasis added).*

[Id.]. The FEIS acknowledges that the DEIS LUD maps did not reflect this. As stated in the Response to Comments on the DEIS [FEIS, Appendix I, p. I-113], the FEIS maps for the action alternatives (Alternatives 2, 3, 4, and 5) include the Section 4407 rights-of-way and the State of Alaska's Southeast Alaska Transportation Plan (SATP) corridors.

See my response to Issue NFMA 3, below, for additional discussion on the Transportation Systems Corridors direction in the Amended Plan.

Conclusion

Based on my review of the 2012 Planning Rule, the FEIS, DEIS, Amended Plan, and planning record, I believe that the removal of the TUS LUD and the addition of the Transportation Systems Corridors plan direction was consistent with the 2012 Planning Rule and was appropriately disclosed in the DEIS. The objector and others had an opportunity to comment on these changes, and the Forest responded to those comments. The FEIS and Amended Plan acknowledge the rights-of-way identified in Section 4407 of Public Law 109-59, and the FEIS maps depict those rights-of-way.

Issue NFMA 3: Objectors contend the Forest Service violated NFMA, NEPA, the Multiple Use Sustained Yield Act (MUSYA), and APA by failing to appropriately address or describe the conflicting direction between the management prescriptions in Chapter 3 and the stated purpose in Chapter 5 to facilitate the availability of NFS lands for the development of existing and future transportation systems corridors, and by failing to analyze and consider the environmental effects of the proposed changes in the transportation direction. Specifically, objectors contend:

- The transportation-related changes in the Amended Plan will result in major road construction in areas where this type of activity would have been restricted under the 2008 Forest Plan.
- The combination of eliminating avoidance areas and superseding Chapter 3 road restrictions equates to a majority of the Tongass being available for major road construction.
- This approach will jeopardize the integrity of the Tongass Conservation Strategy.

Objector(s): Earthjustice, et al. (Objection #0039)

Response

The Amended Plan discusses the purpose of the Transportation System Corridors direction:

> The purpose of the plan direction is to facilitate the availability of NFS land for the development of existing and future transportation system corridors such as those identified by the State of Alaska in the current version of the Southeast Alaska Transportation Plan and applicable laws (for example, Section 4407 of P.L. 109-59, Title XI of ANILCA, P.L. 96-487).

[Amended Plan, p. 5-10]. The Draft ROD provides the rationale for the removal of the TUS LUD and the new Transportation Systems Corridors direction:

> As previously noted, the purpose and need for the 2016 Forest Plan Amendment includes responding to the Five-Year Review of the Tongass Forest Plan, completed in 2013, which identified a strong desire to improve the ability of proponents of renewable energy development projects such as hydropower, geothermal, and wave energy projects to obtain permits from the Forest Service. Concerns were expressed that the 2008 Plan's direction regarding transportation and utility systems (TUS), including the TUS overlay LUD, were overly complex, confusing, and difficult to implement, creating an impediment to development of hydropower, other types of renewable energy, and transmission lines needed to connect communities to sources of electric power. Alleviating plan-related impediments to considering renewable energy projects is a key consideration to reduce the adverse effect of high energy costs on economic diversification and sustainable economic development in Southeast Alaska.
>
> The direction in the amended Plan replaces the renewable energy direction in the TUS LUD in Chapter 3 of the 2008 amended Forest Plan, and removes that overlay LUD to address these plan-related impediments.

[Draft ROD, pp. 16-17]. The FEIS clearly describes the removal and replacement of the TUS LUD with the Transportation Systems Corridors direction, identifying it as an action common to all action alternatives [p. 2-10]. The FEIS LUD maps associated with each of the alternatives indicate existing road corridors and State of Alaska rights-of-ways, which represent the identified road corridors where the new Transportation Systems Corridors direction would apply. The tables provided in Chapter 2 of the FEIS for each of the action alternatives do not include acreages associated with new Transportation Systems Corridors direction "because transportation projects are a series of corridors with undefined width and imprecise locations" [see, for example, FEIS, p. 2-37, Table 2-15, footnote 1].

The changes between Alternative 1 and Alternatives 2 through 5 (the alternatives that include the new Transportation Systems Corridors direction) is described in the Transportation section of the FEIS [p. 3-307] and the section on Renewable Energy [p. 3-315]. The FEIS Transportation section also identifies the regional transportation system, and describes where the Transportation Systems Corridors direction would be applied in each alternative. Neither the Transportation section nor the Renewable Energy section of the FEIS provide much detail regarding the environmental consequences of implementing these transportation changes because there is no practical change from the 2008 Tongass Plan; the Transportation System Corridors direction replaces the TUS LUD.

The Amended Plan clearly indicates that, in the event of a conflict in direction between the Amended Plan content contained in Chapter 5 and the content in Chapter 3, Chapter 5 content prevails [Amended Plan, pp. 1-5, 5-1].

The objectors contend that removal of avoidance areas and the implementation of the Transportation Systems Corridors direction will result in major road construction and make the majority of the forest available for road construction, jeopardizing the Tongass Conservation Strategy. This contention is unfounded for several reasons:

- While there were avoidance areas and non-development LUDs that discouraged development of road corridors in the 2008 Forest Plan, it would have ultimately allowed such development in the underlying LUDs if there were no other alternatives. The Plan Amendment FEIS supports this, stating that "[u]nder alternative 1, the TUS LUD would be given priority over all underlying LUDS, including LUDs that do not typically allow road construction" [p. 3-313].
- The Amended Plan limits application of the Transportation Systems Corridors direction to existing and future transportation system corridors such as those identified by the State of Alaska in the current version of the SATP and applicable laws (such as Section 4407 of Public Law 109-59, and Title XI of ANILCA, Public Law 96-487) [p. 5-10]. This is clearly described in the FEIS [p. 3-313]:

  > TSC plan components only apply to major road systems such as state and federal highways, railroads, and those identified by the State of Alaska in the current version of the SATP and applicable laws (for example, Section 4407 of Public Law 109-59, Title XI of the Alaska National Interest Lands Conservation Act, Public Law 96-487).

While objectors' contention that the Transportation Systems Corridors direction results in the majority of the forest now being available for road construction is not accurate, I do believe there is a need to clarify the direction with respect to its reference to the "current version" of the SATP. The FEIS references publication of a June 2014 Draft SATP, and notes several differences between it and the 2004 SATP [FEIS, p. 3-307]. Given the reference to competing versions of the SATP, I am directing the Responsible Official to specify the 2004 SATP in the Transportation Systems Corridors direction rather than referring to the "current version." Referring only to the "current version" could be interpreted as modifying where the Transportation Systems Corridors direction applies anytime the SATP is updated by the State of Alaska. This arguably amends the forest plan each time a new "current version" of the SATP is effective, which is not an intended outcome. Therefore, I am directing the Responsible Official to specify the version of the SATP in the Transportation Systems Corridors direction and any FEIS maps that identify the location of the corridors.

Conclusion

Objectors' core contention is that the change in transportation direction will result in the Forest Service giving higher priority to the development of road corridors under the Amended Plan when compared to the 2008 Forest Plan, and that this has not been adequately disclosed in the NEPA documentation. I disagree. The FEIS identifies and describes the change, identifies and

maps the likely areas where such transportation corridors exist and could potentially be developed under the SATP or applicable law, and discusses the likely environmental effects of the changed direction. I believe this is adequate for a programmatic analysis. Any transportation projects developed under the SATP or applicable law will be subject to site-specific, project-level analysis under NEPA to fully evaluate the potential environmental effects of such development. I am, however, directing the Responsible Official to clarify the reference to the "current version" of the SATP in the Transportation Systems Corridors direction and maps.

Issue NFMA 4: Objector contends the Forest Service underestimated development in the TUS LUD and did not adequately consider existing and proposed public highway projects through the Tongass, suggesting the Amended Plan's objective is too limiting. Objector further contends the FEIS did not explain how small-scale power generation and feeder line development outside of the TUS LUD can be implemented without the fixed, predictable management of the TUS LUD.

Objector(s): State of Alaska (Objection #0035)

Response

The Plan Amendment FEIS describes the current roaded transportation system that has developed on NFS lands in Southeast Alaska, and acknowledges that the State of Alaska has identified further transportation development through the Tongass [FEIS, p. 3-07]. The 2004 SATP, prepared by the Alaska Department of Transportation & Public Facilities, identified highway and utility corridors that were incorporated into the 2008 Forest Plan. The 2004 SATP was considered in the Plan Amendment FEIS [Id., pp. 3-307 through 3-314]. The recently proposed 2014 Draft SATP [PR #769_00811], referenced in the FEIS, acknowledges a decrease in expected State funding in the future [FEIS, Appendix I, p. I-111]. The State of Alaska's regional transportation system is included in the list of present and reasonably foreseeable actions and certain projects considered in the cumulative effects analysis [see FEIS, Appendix C, pp. C-18 through C-20].

The Selected Alternative replaces the existing TUS LUD direction with new plan components for Transportation Systems Corridors [FEIS, pp. 3-313, 3-314]. The purpose of the Transportation Systems Corridors direction is to facilitate the availability of NFS land for the development of existing and future transportation system corridors, such as those identified in the SATP [Amended Plan, p. 5-10]. The Transportation Systems Corridors direction takes precedence over other forest-wide and LUD-specific direction where Transportation Systems Corridors are proposed or exist [FEIS, p. 3-313; Amended Plan, p. 5-1; see also Issue NFMA 3, above]. Objective O-TSC-01 of the Amended Plan states: "[c]ooperate with other agencies in developing 35 miles of transportation corridors on NFS lands during the 15 years after plan approval" [Amended Plan, p. 5-10].

Objector effectively contends that the objective of developing 35 miles of transportation corridors in 15 years is too limited. Forest plan objectives, however, describe the steps to be taken and the resources to be used in achieving goals. They are a statement of a desired rate of progress toward a desired condition(s) and should be based on reasonably foreseeable budgets [36 C.F.R. § 219.7(e)(1)(ii)]. As such, objectives are not limitations per se, but an expression of

realistic expectations for achievement [77 Fed. Reg. 21205 (April 9, 2012)]. I believe the Forest appropriately considered the existing and planned transportation projects identified in the SATP that are or will be located on NFS lands, and the Amended Plan's Transportation Systems Corridors direction and objective O-TSC-01 are realistic expectations for achievement.

With regard to objector's contention that the FEIS did not explain how small-scale power generation and feeder line development can occur outside of the predictable management of the TUS LUD, the Plan Amendment FEIS states that the removal of the TUS LUD and replacement with forest-wide plan components will provide greater flexibility in meeting project planning, goals, and objectives across the Forest [FEIS, p. 3-325.] Implementation of these plan components will simplify the process for projects, resulting in more rapid development of sites [Id.]. Small-scale power generation and feeder line development is not specifically addressed in the Plan Amendment FEIS; without existing proposed projects the effects would be too speculative to analyze at the programmatic level. However, each future proposed project will be analyzed considering the Amended Plan's components and site-specific information [Amended Plan, p. 5-9; FEIS p. 3-325].

Conclusion

I believe the FEIS and Amended Plan appropriately consider and address planned transportation and power generation projects that may be located on NFS lands.

Application of the 2012 Planning Rule

Issue NFMA 5: Objectors contend the Forest Service mis-applied provisions of the 2012 Planning Rule, choosing to develop new "plan content" under the 2012 Planning Rule while keeping other chapters under the 1982 Rule, and that this interpretation of the 2012 Planning Rule is arbitrary, capricious, and contrary to NFMA. Specifically, objectors contend:

- The piecemeal application has implications for managing for fish and wildlife population diversity and viability, and the Forest did not demonstrate how the Amended Plan will provide for viable populations and how it is consistent with the 1982 or 2012 Planning Rule provisions for population viability, violating NFMA; and
- The Draft ROD did not disclose how the Amended Plan meets the sustainability, diversity, multiple use, or timber requirements of the 2012 Planning Rule [36 CFR §§ 219.8 to 219.11], violating NFMA.

Objector(s): Audubon (Objection #0041)
Earthjustice, et al. (Objection #0039)
GSACC, et al. (Objection #0042)

Response

There are two main contentions to this objection issue:

1) Whether the Amended Plan meets Forest Service obligations under the 1982 Planning Rule to provide habitat for viable populations of native vertebrate and desired non-native vertebrate species and the related requirements of the 2012 Planning Rule to provide ecological conditions for species of conservation concern so that viable populations of these species can persist in the plan area; and
2) Whether all of the substantive requirements contained in the 2012 Planning Rule [36 CFR §§ 219.8-219.11] apply to this amendment and presumably to any plan amendment.

With regard to the first contention, NFMA directs managers of NFS lands to "provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives." The Tongass Forest Plan was developed using the 1982 Planning Rule. While no obligations exist from the 1982 Rule as that Rule no longer exists [36 CFR § 219.17(c)], the 2008 Forest Plan's explicit direction to "provide the abundance and distribution of habitat necessary to maintain viable populations of existing native and desirable introduced species well-distributed in the planning area" [2008 Forest Plan, p. 4-89] remains and was not changed in the Amended Plan. Therefore, the mandate to maintain viable populations of species remains applicable to Tongass land management activities [see Amended Plan, p. 4-82].

The Amended Plan is not a plan revision and the Forest was not required to complete a new analysis with respect to meeting NFMA requirements related to species viability. Instead, the Amended Plan builds on the Tongass Conservation Strategy developed for the 1997 Tongass Plan Revision, which was carried forward and refined in the 2008 Tongass Plan. The Plan Amendment FEIS examined how the Amended Plan would affect the existing Tongass Conservation Strategy [see FEIS, Appendix D]. Based on that analysis, the Responsible Official concluded:

> The selected alternative will retain the ability of the conservation strategy to maintain a functional and interconnected old-growth ecosystem across the planning area, and the overall function of the Conservation Strategy in terms of its ability to maintain viable, well-distributed populations of wildlife across the planning area will not be affected.

[Draft ROD, p. 23]. See my response to Issue WLF 5, below, for further discussion of this issue. As stated in that response, I believe the Forest adequately considered and disclosed the status of the Tongass Conservation Strategy and the Amended Plan's effects on that Strategy.

With regard to the second contention, objectors believe the Amended Plan must comply with all of the substantive requirements of the 2012 Planning Rule [36 CFR §§ 219.8 to 219.11]. I disagree. The Draft ROD for the Amended Plan contains two substantial sections in the "Rationale for the Decision" discussion that describe "How the 2012 Planning Rule Applies to this Amendment" and the "Scope and Scale of the Amendment." In the first section, the Responsible Official indicates that his determination regarding which of the substantive provisions of the 2012 Planning Rule apply to the Plan Amendment was based on the scope and

scale of the change in the Plan [Draft ROD, p. 11-12]. This discussion links the scope of the Plan Amendment to the portions of the 2012 Planning Rule that apply to the changes being proposed. The next section, "Scope and Scale of the Amendment" [Draft ROD, pp. 12-14], specifies that the scope and scale of the Amendment directly deals with two primary issues, and references the applicable substantive requirements of the 2012 Planning Rule related to those issues:

1) Accelerating the transition of the Tongass timber program to harvest of young growth and avoidance of old-growth harvest. The provisions of the 2012 Rule at 36 CFR § 219.11, Timber Requirements Based on NFMA, are applicable.
2) Making the development of renewable energy resources more permissible, including considering access and utility corridors. The provisions of the 2012 Rule at 36 CFR § 219.10(a)(2) and (3), which specifically address renewable energy, infrastructure, and transportation and utility corridors, are applicable.

This approach is consistent with the guidance in the planning directives [FSH 1909.12, Chapter 20, Section 21.3], which states:

> Amendment of a plan developed and approved using the 1982 Rule process requires application of the 2012 Planning rule requirements only to those changes to the plan made by the amendment. For example, the 2012 Rule's requirement to establish a riparian management zone (36 CFR 219.8(a)(3)) would apply only if the plan amendment focuses on riparian area guidance.

The approach in the directives is based on the general incremental approach for amendments described in the Preamble to the 2012 Rule where it discusses 36 CFR § 219.13:

> Plan amendments incrementally change the plan as need arises. Plan amendments could range from project specific amendments or amendments of one plan component, to the amendment of multiple plan components. For example, a monitoring evaluation report may show that a plan standard is not sufficiently protecting streambeds, indicating that a change to that standard may be needed to achieve an objective or desired condition in the plan for riparian areas. In that case, the responsible official could choose to act quickly to propose an amendment to change that particular standard.

[77 Fed. Reg. 21237]. The "How the 2012 Planning Rule Applies to this Amendment" discussion in the Draft ROD further describes the rationale for this approach in the context of the Plan Amendment by citing 36 CFR § 219.13(a), which describes "amendments" as follows:

> A plan may be amended at any time. Plan amendments may be broad or narrow, depending on the need for change, and should be used to keep plans current and help units adapt to new information or changing conditions. The responsible official has the discretion to determine whether and how to amend the plan. Except as provided by paragraph (c) of this section, a plan amendment is required to add, modify, or remove one or more plan components, or to change how or where one or more plan components apply to all or part of the plan area (including management areas or geographic areas.

This section of the Draft ROD [pp. 11-12] emphasizes that the Responsible Official has the discretion to determine what changes are needed to a plan, including what changes are needed for plan components. The Draft ROD references 36 CFR § 219.17(c) for situations involving plans developed under a previous planning rule:

> This part supersedes any prior planning regulation. No obligations remain from any prior planning regulation, except those that are specifically included in a unit's existing plan. **Existing plans will remain in effect until revised**. **This part does not compel a change to any existing plan,** except as required in § 219.12(c)(1). None of the requirements of this part apply to projects or activities on units with plans developed or revised under a prior planning rule until the plan is revised under this part, except that projects or activities on such units must comply with the consistency requirement of § 219.15 with respect to any amendments that are developed and approved pursuant to this part.

[emphasis added; see also Draft ROD, p. 12]. The 2012 Planning Rule at 36 CFR § 219.14(a)(2) requires an explanation in the decision document about how the plan amendment meets the requirements of 36 CFR §§ 219.8 to 219.11. In compliance with this regulation, the Draft ROD [p. 12] includes a determination that the Amended Plan meets the applicable provisions of 36 CFR §§ 219.11 and 219.10(a)(2) and (a)(3). Support for this finding is included in the "Wildlife Habitat and the Tongass Old-Growth Habitat Conservation Strategy" discussion of the Draft ROD [pp. 18-20)], with reference to 36 CFR § 219.11 in the "Overview" and "Selected Alternative" sections. The "Compliance of the Selected Alternative with the 2012 Rule" discussion in the Draft ROD [pp. 23-24] adequately describes how the applicable provisions of the 2012 Planning Rule are met in the Amended Plan.

Conclusion

The Responsible Official's determination that the provisions of the 2012 Planning Rule that specifically apply to the Amended Plan are 36 CFR §§ 219.11 and 219.10(a)(2) and (3) is reasonable and consistent with the Rule and with the Forest Service Land Management Planning Handbook, and the Amended Plan complies with those provisions of the Rule.

Standards and Guidelines

Issue NFMA 6: Objector contends the Amended Plan's direction regarding young-growth management in "co-intent" areas is not adequate. Specifically, objector contends the desired conditions for young growth in RMAs, beach and estuary fringe, and Old-Growth Habitat will not be met with the allowance of ten-acre clearcuts, and that forest plan standards and guidelines and other components that are not consistent with desired conditions in these areas, particularly priority salmon watersheds, violate NFMA.

Objector(s): Alaska Wilderness League (Objection #0032)

Response

The Amended Plan includes the following desired conditions for young-growth management in RMAs, beach and estuary fringe, and Old-Growth Habitat:

> **DC-YG-04:** Harvesting of young-growth stands in Riparian Management Areas (RMAs) and Beach Fringe provides opportunities to improve or maintain fish and wildlife habitat by accelerating old-growth characteristics [Amended Plan, p. 5-2].
>
> **DC-YG-BEACH-01:** Active management of young-growth stands within the beach and estuary fringe supports a range of social, economic and ecological needs. These areas provide habitat and connectivity for wildlife and opportunities for accelerating old-growth characteristics while also providing commercial timber byproducts [Id., p. 5-4].
>
> **DC-YG-RIP-01:** Active management of young-growth stands that are suitable for timber production within RMAs supports a range of social, economic and ecological needs. These areas are managed to accelerate old-growth characteristics in order to improve riparian functions for soil, water, fish, wildlife, and other resources (see Appendix D), while also providing a commercial timber byproduct [Id., p. 5-6].
>
> **DC-YG-WILD-01:** Active management of young-growth stands within the Old-Growth Habitat LUD supports the integrated consideration of social, economic and ecological needs of regional and local communities. Young-growth stands within the Old-Growth Habitat LUD maintain habitat and connectivity for wildlife and are managed to accelerate development of old-growth characteristics while also providing commercial timber byproducts [Id., pp. 5-7 to 5-8].

All of these desired conditions clearly indicate that both harvest and active management of young-growth stands is intended in each of these areas. The Amended Plan also includes management approaches for RMAs, beach and estuary fringe, and Old-Growth Habitat, which describe the intent and priority with respect to harvest of young growth in these areas:

> The intent is to exercise flexibility to increase volume in these young-growth areas during the transition timeframe, and generally treat in priority of most economic return and least environmental risk:
>
> 1. Development LUDs outside of RMAs and beach fringe;
>
> 2. Beach fringe;
>
> 3. Old-growth Habitat LUD outside of RMAs;
>
> 4. RMAs outside of the Tongass Timber Reform Act (TTRA) buffers.
>
> It is expected that priority stands would be in high and medium productivity sites with favorable logistical access.

[Amended Plan, p. 5-3]. Further intent is stated as:

> The intent is that during project planning, IDTs identify other resource opportunities in the project area, and if approved by the responsible official integrate these opportunities into the project design. (See definition for Integrated Resource Management in Chapter 7.) When designing young-growth projects that would

> advance old-growth characteristics in the beach fringe, RMA, or an old-growth reserve (OGR), IDTs seek out stakeholders to encourage creative and innovative approaches for developing silvicultural treatments that imitate the natural scale and distribution of disturbance patterns on the Tongass (e.g., wind-thrown timber that creates gaps and patches; landslides that create corridors and gaps; mortality that naturally thins stand). The intent is that treatments in RMAs would address stream process group objectives. (Consult Appendix D, and Exhibit 2 in the Tongass Young Growth Management Strategy [USDA 2014].)

[Id., p. 5-4]. To achieve the desired conditions and provide for timber harvest in young-growth areas, the Amended Plan provides the following standards for RMAs, beach and estuary fringe, and Old-Growth Habitat:

> The maximum size of any created opening for commercial timber harvest in the beach fringe must not exceed 10 acres and a maximum removal of up to 35 percent of the acres of the original harvested stand is allowed. Commercial thinning is limited to 33 percent of the stand's basal area. A combination of the two treatments may be used, with no more than 35 percent of the total stand removed in either basal area and/or acres. TTRA and other administratively withdrawn areas do not count towards the stand's total acreage.

[S-YG-BEACH-01, S-YG-RIP-01, and S-YG-WILD-01, Amended Plan, pp. 5-5, 5-6, and 5-8]. The Amended Plan also states:

> Harvest of commercial timber within young-growth stands is limited to a one-time only entry and to the first 15 years unless best available scientific information shows that additional entries are: a) warranted and b) meet the LUD objectives.

[S-YG-BEACH-01, S-YG-RIP-02, and S-YG-WILD-02, Id., pp. 5-5, 5-6 and 5-8]. These standards are based on the TAC's final recommendations, included in Appendix B of the Amended Plan.

The Tongass Young Growth Management Strategy referenced in the Amended Plan [p. 5-4] identifies a variety of vegetation treatments that can be used in young-growth stands to achieve the desired conditions discussed above [PR #769_01133]. A number of the Responses to Comments on the DEIS [FEIS, Appendix I] also describe the intent to manage young growth in a way that contributes to the stated desired conditions. For example:

> The Tongass uses intermediate silvicultural treatments to meet a variety of objectives in our young-growth stands. Precommercial thinning is the most predominant management tool prescribed to improve tree growth and stand vigor, as well as allow for more light to reach the understory, allowing a more robust and persistent understory including forage. Follow up treatments can be planned for young growth where the objective is other than long-term rotational harvest. Some of these treatments may include creation of canopy gaps, pruning and/or slash reduction.

[FEIS, Appendix I, p. I-76]. In sum, I think the Amended Plan clearly states the desired conditions for these areas, and the record supports some level of harvest in these areas to improve habitat conditions and long-term ecological function.

The objector contends that allowing clearcuts of up to 10 acres in RMAs, beach and estuary fringe, and Old-Growth Habitat would not be consistent with the desired conditions of these areas. I agree that the biological rationale for the size of openings allowed could be clearer in the Amended Plan. However, all of the desired conditions discussed above reference accelerating the development of old-growth characteristics, and both the Amended Plan and the Young Growth Management Strategy establish the value of various silvicultural treatments to achieving old-growth characteristics and other ecological benefits consistent with the desired conditions in these areas, including canopy gaps and patch openings. The FEIS acknowledges that allowing openings of "up to" ten acres "provide[s] more economical offerings to allow a more rapid transition to young growth management," but also indicates the intent of these openings was to "emulate the natural scale and distribution of disturbance patterns on the Tongass (such as wind-thrown timber that creates gaps and patches, landslides that create corridors and gaps, mortality that naturally thins stands, etc.)" [FEIS, Appendix I, p. I-48]. The FEIS acknowledges that "most natural disturbance results in openings that are smaller than 10 acres," but points out that "wind events and landslides have created this type of landscape" [Id.].

The FEIS displays the spatial extent of the young-growth harvest that would be allowed in RMAs, beach and estuary fringe, and the Old-Growth Habitat LUD by biogeographic province, illustrating the limited spatial extent of the harvest compared to the extent of these areas on the Forest [FEIS, Appendix D, pp. D-10 through D-19]. As discussed in the FEIS:

> Forest-wide, suitable acres of young growth in the beach fringe, RMAs, and Old-Growth Habitat LUD are about 2 percent, 4 percent, and 3 percent of the total acres in that component, respectively. Projects must still maintain landscape connectivity per WILD1.VI.A (Chapter 4) and several Young Growth plan components in Chapter 5 set constraints and expectations on young growth harvest.

[FEIS, Appendix I, p. I-42].

See my response to Issue NEPA 12, above. As stated in that response, the standards and guidelines, desired conditions, and management approaches identified in the Amended Plan for the beach and estuary fringe, RMAs, and Old-Growth Habitat LUD are plan components that must be applied to project-level activities. If any ten-acre opening proposed in these areas does not meet the desired condition or otherwise comply with applicable plan components, the opening will not be authorized. As a result, these areas will continue to provide fish and wildlife habitat and habitat connectivity, consistent with the desired conditions for these areas.

Conclusion

The Amended Plan clearly identifies the desired conditions, standards and guidelines, and management approaches for young-growth harvest in RMAs, beach and estuary fringe, and Old-Growth Habitat. Project-level analyses for any projects that propose openings in these areas will consider the applicable standards and guidelines, desired conditions, and management approaches for these areas. If the proposed openings do not meet the desired condition or otherwise comply with applicable plan components, they will not be authorized.

Issue NFMA 7: Objector contends that while the Forest Service asserts the Amended Plan is based on and reflects the TAC recommendations, the Amended Plan does not provide any binding commitment to "no net loss" of the timber base, a key recommendation of the Committee. Objector further contends this is needed to ensure the Forest's continued ability to meet timber industry and community needs and other objectives for the young-growth transition.

Objector(s): Sealaska (Objection #0029)

Response

The timber base referred to in the objection is the land that is suitable for timber production. Pursuant to NFMA [16 U.S.C. § 1604] and the 2012 Planning Rule [36 C.F.R. §219.11(a)], the Responsible Official is required to identify lands that are not suitable for timber production. The Rule requires plan components to address limitations on timber harvest on lands not suitable for timber production, as well as lands that are suitable [36 C.F.R. § 219.11(d)]. The Rule also requires that every 10 years, a review must be conducted to determine if any of the lands identified as not suitable have become suitable [36 CFR § 219.11(a)(2)]. The Forest Service Land Management Planning Handbook [FSH 1909.12, Chapter 60, Section 61] states that plans must identify lands suitable and not suitable for timber production, and describes the process for such determinations. See my responses to Issues TM 6 and TM 7, below. As stated in those responses, I believe the Forest's identification of the lands suitable for timber production is consistent with the requirements of NFMA and the 2012 Planning Rule, and that the effects of those suitability determinations have been fully considered and disclosed in the Plan Amendment FEIS and planning record.

Appendix B of the Amended Plan contains the TAC's final recommendations, which state:

> In order to maintain a viable young growth timber industry in the future, the existing suitable land base for young growth timber should be maintained (i.e., no net loss of young growth acres). If suitable young growth acres are removed from the timber base as a result of the review process, an equal number of acres should be added to the young growth timber base.

[Amended Plan, Appendix B, p. 5]. The "review process" in this recommendation is related to monitoring, including reviews conducted at the end of five and ten years to measure the effectiveness of the flexibilities in meeting the TAC's "co-intent" goals [Id.] The TAC defined its co-intent as a mandate to maintain the primary intent and objectives of each LUD and standards and guidelines, while developing and applying forest management activities that will accelerate the transition to young-growth management [Amended Plan, Appendix B, p. 3].

Objector is correct that the Amended Plan does not include a forest plan component that commits to "no net loss" of the lands suitable for timber production. However, it is more accurate to describe the TAC's recommendation as one that would first commit the Forest to a review process at the end of five and ten years to assess whether suitable young-growth acres should be removed from the suitable timber base, and then whether an equal number of acres should be added to the young-growth timber base. As a plan component, any changes made to the lands designated suitable for timber production as a result of this review would require a plan amendment or revision [36 C.F.R. §§ 219.7(e)(1)(v), 219.13(a)].

Conclusion

Although the Amended Plan is based on the TAC's final recommendations, there is no current need to incorporate the "no net loss" concept into a plan component. I am, however, directing the Responsible Official to consider this concept in concert with the TAC's recommendations for a review process as the Forest monitors the effectiveness of the Amended Plan's components [Draft ROD, p. 35].

Issue NFMA 8: Objector contends the Forest Service failed to recognize the conflicts that exist with on-going or planned old-growth timber sales (such as the Wrangell and Kuiu Island timber sales) that include stands within the Tongass 77 Watersheds or Audubon/TNC Conservation Priority Areas, and that these on-going or planned timber sales are not consistent with the Amended Plan as they include old-growth harvest in areas that the Plan identifies as not suitable for old-growth timber production.

Objector(s): Trout Unlimited (Objection #0036)

Response

The 2012 Planning Rule at 36 C.F.R. § 219.15(b) provides that projects and activities authorized after approval of a plan amendment must be consistent with the plan. The project or activity approval document must describe how the project or activity is consistent with applicable plan components [36 C.F.R. § 219.15(d)].

The Draft ROD for the Amended Plan states that the Plan does not provide final authorization for any activity, including timber sales. Rather, it provides a programmatic framework within which projects will be proposed, analyzed, and decided upon [Draft ROD, p. 42]. The Draft ROD indicates that, for activities or projects for which final decisions have been made prior to approval of the Amended Plan, it is not necessary to apply the Amended Plan's management direction retroactively, because the pre-existing decisions and associated effects of those decisions were considered as part of the baseline for the effects analyses contained in the Plan Amendment FEIS [Id., p. 43].

Conclusion

I believe the Draft ROD accurately reflects the consistency requirements of the 2012 Planning Rule. With regard to timber sale projects that will not have final decisions (RODs or Decision Notices (DNs)) prior to the approval of the Amended Plan, those planned timber sales must be consistent with the Amended Plan with respect to old-growth harvest in areas that are not suitable for old-growth timber production under the Amended Plan. This includes the Wrangell Island timber sale project referenced by objectors.

With regard to on-going timber sale projects that have already been authorized in an existing, final ROD or DN, there is no requirement that these "legacy" projects be consistent with the Amended Plan. If future sale offerings include units within the Tongass 77 Watersheds or Audubon/TNC Conservation Priority Areas, the Responsible Official has the discretion to determine whether such units should be excluded from the sale offering.

Administrative Procedures Act

Issue APA 1: Objectors contend the Draft ROD fails to meet, and often times fails to even mention, commitments previously made during the 2008 Forest Plan amendment process. Specifically, objectors contend:

- The Draft ROD changes the Forest Service's commitment to a three-year supply of economic timber to the industry, an important component of the 2008 Forest Plan, without disclosing this change or explaining the implications of doing so;
- The Draft ROD provides misleading information about the origin of the transition to young growth, and how this transition relates to the 2008 Forest Plan and the commitments the Under Secretary of Agriculture made in his September 17, 2008 Memorandum approving that Plan (such as to provide economic timber sales, offer four 10-year timber sales, and accelerate opportunities for an integrated timber industry); and
- Old-growth timber made available in the 2008 Forest Plan within inventoried roadless areas (IRAs) was placed off-limits, thereby amending the Plan without a NEPA review of the effects of that amendment.

Objector(s): Alaska Power & Telephone Company (Objection #0006)
Jim Clark & Frank Murkowski (Objection #0008)
Ketchikan Chamber of Commerce (Objection #0013)
Resource Development Council (Objection #0018)
City of Wrangell (Objection #0021)
Alaska Miners Association (Objection #0031)
First Things First Alaska Foundation (Objection #0009)
Hyak Mining (Objection #0020)
Ketchikan Gateway Borough (Objection #0050)
Alaska Forest Association/Southeast Conference (Objection #0027)

Response

With regard to objectors' contention that the Draft ROD changes the Forest Service's previous commitment to provide a three-year supply of economic timber to the industry without a reasoned explanation, it is important to note that there is no requirement in NEPA, NFMA, or the 2012 Planning Rule that requires the Forest Service to commit to any specific level of timber offering. In fact, the 2012 Planning Rule expressly states that "[a] land management plan

provides a framework for integrated resource management and for guiding project and activity decisionmaking," and that "[a] plan does not authorize projects or activities or commit the Forest Service to take action" [36 CFR § 219.2(b)(1), (2)].

While the Forest Service is not required to commit to a specified level of timber offering, it is required to comply with the so-called "seek to meet" market demand provision for Tongass timber in the TTRA. As stated in the Draft ROD, estimating that demand is inherently uncertain and there are differences of opinion in long-term demand forecasts [p. 24]. This debate concerning market demand for timber from the Tongass, and how the Tongass timber program relates to market demand, has been ongoing for decades, and is a topic in nearly all of the objections I received on the Amended Plan, with objectors on both sides of the issue. See my response to Issues ES 6 and ES 8, below, for a discussion on the market demand analyses completed for the Amended Plan. In particular, my response to Issue ES 6 discusses the Morse Methodology, which is the means by which the Forest Service complies year-to-year with the annual demand component. Through the Morse Methodology, the Forest Service seeks to build and maintain sufficient volume under contract to allow the industry to react promptly to market fluctuations.

Contrary to objectors' contention, the Forest Service has not changed the way it complies with the annual component of TTRA's mandate to seek to meet market demand. The Draft ROD discusses the Morse Methodology, specifically stating:

> Adoption of the Forest Plan Amendment does not require any changes in the Morse methodology for estimating annual timber sale levels. The Morse methodology will be updated, however, to incorporate new derived demand projections from the Daniels et al. study.

[Draft ROD, p. 25]. The Amended Plan demonstrates the Forest Service commitment to this goal by including a forest-wide objective to "[p]rovide about three years supply of volume under contract to local mills and then establish NEPA-cleared volume to maintain flexibility and stability in the sale program" [Amended Plan, p. 2-5]. While the Amended Plan does not specify this three-year supply as economic timber, it is implied because the measure is "under contract," which means volume sold. Annual appropriations bills since 2001 have mandated that no timber sale in the Alaska Region shall be advertised if the indicated rate is deficit when appraised using a residual value appraisal. Therefore, the sales under contract could not have been sold if they were not economical.

The Draft ROD [p. 42] further addresses the issue of economic sale offerings, stating:

> Providing economic timber sales in Southeast Alaska has always been a challenge and is expected to remain so in the future… Implementation of the amended Forest Plan will be monitored. If it is determined that the Plan unnecessarily affects the ability to produce economic timber sale projects, the forest plan amendment process will be initiated, focusing on opportunities to promote economic timber sales without compromising the Forest Plan's goals, objectives, and desired conditions.

The Amended Plan also addresses this, indicating that the Forest shall "[s]eek to provide an economic timber supply sufficient to meet the annual market demand for Tongass National Forest timber, and the market demand for the planning cycle" [p. 5-13]. The Amended Plan also states that the Forest shall "[r]eview the timber sale program and work with the state and other partners to implement changes that will keep an "economic timber" perspective throughout the process…" [p. 2-5].

Objectors contend the Draft ROD provides misleading information about the origin of the transition to young growth, and fails to explain why the Secretary is no longer seeking an integrated timber industry, economic timber sales, or four 10-year timber sales. Both the FEIS [Chapter 1] and Draft ROD [Introduction] discuss the history of Tongass forest planning, including factors that led to the need for transition to young growth. Although the Secretary's 2009 or 2010 Memoranda are not specifically mentioned, a number of important elements from that time period, including the Transition Framework, are highlighted. The Secretary's July 2013 Memorandum [#1044-009], which is an outgrowth of the Transition Framework and supersedes the 2009 and 2010 Memoranda, states that the "transition to a more ecologically, socially, and economically sustainable forest management is a high priority for USDA," and directs the transition to be carried out in a manner that "preserves a viable timber industry that provides jobs and opportunities for residents of Southeast Alaska" [PR #769_01367, p.1].

The concept of providing four 10-year sales stems from the Under Secretary's September 2008 memo to the Chief of the Forest Service, expressing the goal "to provide sufficient assurances to support necessary investment in new and upgraded manufacturing facilities." The Plan Amendment FEIS discusses several factors that have hindered the ability of the Forest Service to accomplish the goal of providing a reliable timber supply to provide these assurances [FEIS, pp. 1-4 through 1-8]. The Amended Plan and Draft ROD have not abandoned this goal. Rather, they seek stability for the Tongass timber sale program through "an accelerated young-growth transition with a sufficient amount of old-growth bridge timber to allow industry to re-tool for processing young-growth" [Draft ROD, p. 28].

With regard to an integrated industry, both the 2008 Forest Plan and the Amended Plan include a goal to support new and upgraded processing facilities; the Amended Plan just seeks to accelerate the transition to an industry based on young-growth verses old-growth harvest. The Draft ROD [p. 28] states:

> While past forest plan revisions and amendments used varying demand scenarios… including scenarios that allowed for growth and expansion of the current industry, an examination of alternatives above projected demand is not warranted for this amendment because it would require expansion of old-growth harvest, at least during the next 10-20 years. However, over the longer term, expansion of the timber industry is an option as more and more young growth becomes economic to harvest.

With regard to objectors' contention about the Roadless Area Conservation Rule (Roadless Rule), see my responses to Issues ROAD 1 and ROAD 2, below. The application of the Roadless Rule to the Tongass has been the subject of litigation since its adoption in 2001; most

recently, the Ninth Circuit Court of Appeals upheld the District Court's reinstatement of the Roadless Rule on the Tongass [*Organized Village of Kake, et al. v. USDA, et al.*, No. 11-35517 (Ninth Circuit)]. The Amended Plan is consistent with this decision.

Conclusion

Based on my review of the FEIS, Draft ROD, Amended Plan, and planning record, I believe the record acknowledges the importance of providing a stable, economic timber supply to the industry; adequately discusses how the young-growth transition and other factors contributing to the need for change evolved; and adequately considers and discloses the effects of this transition on the timber industry in Southeast Alaska. I believe the Responsible Official's decision on the Amended Plan is reasonable and supported by the record.

Tribal and Alaska Native Corporation Consultation

Issue TANC 1: Objector contends the Forest Service violated 36 CFR § 219.4 by not adequately coordinating and collaborating with Sealaska, other adjoining landowners, and other Alaska Native entities during the planning process. Specifically, objector contends that comments they submitted on the DEIS and Proposed Amended Plan were not reflected in the FEIS, and that Alaska Native Corporations were omitted from the list of entities with which to consult regarding subsistence and other resources in the Amended Plan.

Objector(s): Sealaska Corporation (Objection #0029)

Response

The 2012 Planning Rule guides the development, revision, and amendment of land management plans for the forests and grasslands in the National Forest System. The Rule places a new focus on coordination, cooperation, and collaboration between governmental interests and the Forest Service, as they work together to fulfill their respective missions. The Responsible Official is designated to engage with federally-recognized Tribes and Alaska Native Corporations early and throughout the planning process in a collaborative manner [see 36 C.F.R. § 219.4(a)(1)]. The Rule complements, but does not supersede or supplant, government-to-government consultation and coordination with federally-recognized Tribes and Alaska Native Corporations required by Executive Order 13175; Public Law 108-199, 118 Stat. 452, as amended by Public Law 108-447, 118 Stat. 3267; FLPMA at 43 U.S.C § 1712 (b); and United States Department of Agriculture and Forest Service policies.

The collaborative role of each State, local, and Tribal government (and its agencies) in the planning process is unique. The opportunity for involvement throughout the planning process is both required by the 2012 Planning Rule and essential to the successful development and implementation of land management plans. Intergovernmental participation, when carried out properly and with mutual respect for the rights and responsibilities of each government, can result in more robust land management plans that meet the needs of those governments. Such participation allows governments to coordinate the use of limited financial and staffing resources more effectively as they work cooperatively to manage forest resources on lands across multiple jurisdictions.

Consistent with the 2012 Planning Rule at 36 CFR § 219.4(a)(1)(v), on September 9, 2014, the Responsible Official sent a letter to all federally-recognized Tribes to invite them to participate as cooperating agencies in the planning effort [PR #769_00057]. The State of Alaska, the U.S. Fish and Wildlife Service (USFWS), and the Environmental Protection Agency (EPA) were also invited to participate as cooperating agencies [Id.]. Only the USFWS chose to participate as a cooperating agency. While the Forest received a letter of interest from the Central Council Tlingit and Haida Indian Tribes, no formal agreement was completed as the Responsible Official did not hear back from them after repeated attempts. He informed them that they could still participate through government to government coordination [PR #769_00779].

On November 13, 2015, the Responsible Official provided the federally-recognized Tribes and Alaska Native Corporations the opportunity to consult on a government-to-government level on the Plan Amendment, and also provided advanced notice on the opportunity to provide comments on the Proposed Plan and accompanying DEIS. As stated in that letter:

> The Tongass National Forest is committed to fulfilling the Government's Trust responsibilities to Tribes and ANCSA Corporations through engagement in timely and meaningful consultation on policies that may affect one or more Tribes and/or Corporations. As such, we are making [the proposed Plan Amendment and associated DEIS] available to the affected Tribes and Corporations in advance of the public notice scheduled to be published on November 20, 2015.

[PR #769_01243]. In addition to the formal consultation offered, the Forest held public open houses in Juneau, Sitka, and Ketchikan in January and February of 2015, and in January and February of 2016, the Forest hosted nine public open house meetings, each followed by a subsistence hearing. These meetings were held in Klawock, Ketchikan, Wrangell, Petersburg, Juneau, Sitka, Hoonah, Yakutat, and Kake [FEIS, p. 1-12 to 1-13]. Federally-recognized Tribes and Alaska Native Corporations were again provided advanced notice of the FEIS and Draft ROD on June 28, 2016 [PR #769_01306]. The planning record documents the invitations that were sent to the federally-recognized Tribes and Alaska Native Corporations, and the consultation that was requested by and provided to the entities who requested it. Sealaska requested formal government-to-government consultation at the same time that it filed an objection to the Draft ROD on August 29, 2016 [PR #769_01503]. The Responsible Official met with Sealaska on November 14, 2016 in response to their request for consultation.

Objector contends that comments from Sealaska are not reflected in the FEIS. That is not accurate. The February 22, 2016 letter from Sealaska is in Appendix I of the FEIS [Attachment A to that Appendix], along with other letters from agencies, elected officials, Tribal governments, and Alaska Native Corporations. As stated in Appendix I, the Forest received over 165,000 comments during the public comment period. These comments were reviewed, coded, categorized, and then summarized, and responses were provided to the summary comment statements [see FEIS, Appendix I, pp. I-1 to I-4]. Many of the comments received consisted of statements of opinion or preference; while these comments were considered, they did not require a specific written response [Id]. Other substantive comments, including those expressed by Sealaska, were responded to through the process described above.

Conclusion

I believe the Forest's consultation efforts with Sealaska, other adjoining landowners, and other Alaska Native entities during the planning process was consistent with the 2012 Planning Rule at 36 CFR § 219.4, and the FEIS and planning record indicate that the comments submitted by those entities were adequately considered. The Forest Service considers Tribal and Alaska Native Corporation consultation an ongoing, iterative process throughout Forest Plan implementation, and will continue to seek out opportunities to engage these entities as projects are proposed, planned, and implemented.

Objectors are correct that Page 4-65 of the Amended Plan needs to be modified to include Alaska Native Corporations. Therefore, I am directing the Responsible Official to make this correction in the Amended Plan.

Inventoried Roadless Areas

Issue ROAD 1: Objectors contend the Forest Service was arbitrary and capricious and violated NEPA and the APA in failing to address and analyze the effects of creating new roadless areas on the Tongass National Forest through road decommissioning, even though a projected reduction in road density is a claim made in the Draft ROD.

They contend that while the Draft ROD describes a reduction in the projected road density between the 1997 Forest Plan (8,500 miles by 2095) and the Selected Alternative (less than 6,100 miles by 2095), the Draft ROD does not explicitly state that new roadless areas would be created on the Tongass, nor does it analyze this associated road decommissioning in the Plan Amendment FEIS.

Objector(s): Alaska Power & Telephone Company (Objection #0006)
Jim Clark & Frank Murkowski (Objection #0008)
Ketchikan Chamber of Commerce (Objection #0013)
Resource Development Council (Objection #0018)
City of Wrangell (Objection #0021)
Alaska Miners Association (Objection #0031)
First Things First Alaska Foundation (Objection #0009)
Hyak Mining (Objection #0020)
Ketchikan Gateway Borough (Objection #0050)

Response

The term "inventoried roadless area" (IRA) is defined in the Roadless Rule at 36 CFR § 294.11, as follows:

> Areas identified in a set of inventoried roadless maps, contained in Forest Service Roadless Area Conservation, Final Environmental Impact Statement, Volume 2, dated November 2000, which are held at the National headquarters office of the Forest Service, or any subsequent update or revision of those maps.

The November 2000 Roadless Area Conservation FEIS references the same maps [Roadless FEIS, Volume 1, p. G-5], and the Roadless Rule's prohibitions on road construction and reconstruction and timber cutting, sale, or removal only apply to lands included on those maps.

Road decommissioning does not automatically create new "roadless areas," for purposes of the Roadless Rule. While decommissioning roads "results in the restoration of unneeded roads to a more natural state" [see Amended Plan, p. 7-58], it does not remove these areas from LUDs that allow development (such as future timber harvest or road construction), and the Forest was not required to consider or analyze these areas as "newly created roadless areas."

Table 3.12a-1 in the Plan Amendment FEIS identifies the estimated number of road miles, including decommissioned roads, by alternative [FEIS, p. 3-311]. On the following page, the FEIS includes a discussion of the management options regarding roads and current practices. Decommissioned or stored roads can be re-opened, if needed, with reconstruction to make the road suitable and safe for the intended use [Id., p. 3-312]. Information about specific road management is typically identified in each Ranger District's travel management plan and project-specific analyses.

While the Draft ROD does not mention road decommissioning, it does identify the differences between the total miles of road expected to exist in 2095 under the 2008 Forest Plan and the total miles of roads expected to exist in 2095 under the Selected Alternative for the Amended Plan [Draft ROD, p. 20]. The differences in these numbers would not just be the result of road decommissioning, however. As discussed in the ROD, "young-growth harvest would occur within the previously harvested footprint and maximizes the use of existing roads" [Id.]. Therefore, fewer new roads would be built under the Amended Plan compared to the 2008 Forest Plan, which would also contribute to the lower total road miles expected in 2095.

Conclusion

Road decommissioning does not automatically create new "roadless areas." The analysis in the FEIS with regard to Transportation included a discussion on road decommissioning, and the Forest was not required to consider or analyze these areas as "new roadless areas."

Issue ROAD 2: Objectors contend the Forest Service violated TTRA and ANILCA in implementing the 2001 Roadless Rule in the Amended Plan, as they believe the Rule withdraws roadless areas from timber harvest and road construction and, with very limited exceptions, prohibits road access for other needs (such as renewable energy, subsistence, and recreation). Objectors further contend the Roadless Rule remains in active litigation and is not ripe for implementation; therefore, they contend it should not be included or implemented in the Amended Plan.

Objector(s): Sealaska (Objection #0029)
State of Alaska (Objection #0035)

Response

The FEIS acknowledges that the State of Alaska's challenge to application of the 2001 Roadless Rule to the National Forests in Alaska remains pending in the District Court for the District of Columbia [FEIS, p. 3-441; see also FEIS, Appendix I, p. I-178]. With regard to objectors' contention that the Roadless Rule violates the TTRA and ANILCA, the State of Alaska, et al. have raised the same claims in that challenge, and USDA has responded to those claims in the Cross-Motion for Summary Judgment filed in that case [*State of Alaska, et al. v. USDA, et al*., Case 1:11-cv-01122-RJL (D. Columbia); see Attachment #B7]. In a separate case, the Ninth Circuit Court of Appeals upheld the Alaska District Court's reinstatement of the Roadless Rule on the Tongass National Forest [*Organized Village of Kake, et al. v. USDA, et al.*, No. 11-35517 (Ninth Circuit)]. Consequently, the Roadless Rule remains in effect in Alaska and the Plan Amendment FEIS appropriately recognizes that in its discussions of the Roadless Rule.

"Inventoried Roadless Areas" was identified as a significant issue for the Plan Amendment FEIS, and two of the four action alternatives considered in the FEIS (Alternatives 2 and 3) would allow some level of development in IRAs if rulemaking were undertaken to modify the Roadless Rule [FEIS, pp. 1-14, 2-15, 2-21]. Alternative 5, the Selected Alternative, reflects the TAC's recommendations. Under Alternative 5, no modification to the Roadless Rule would be sought and old-growth and young-growth harvest in IRAs would be prohibited [Id., p. 2-33; see also final TAC recommendations, Amended Plan, Appendix B, pp. 6, 13]. In the Draft ROD, the Responsible Official recognized the continued controversy with regard to management of IRAs on the Tongass:

> [M]anagement of roadless areas on the Tongass has been a controversial issue since at least 2001 when the Roadless Rule was promulgated. Several lawsuits have been filed; court decisions have been rendered, appealed, remanded, and reversed; regulations specific to the Tongass have been developed and litigated, struck down, reinstated, and struck down again. During the development of the Forest Plan Amendment, I was struck by the intensity with which some members of the public encouraged me to propose regulations to modify application of the Roadless Rule to the Tongass or to once again exempt the Tongass from it. With equal intensity, other members of the public demanded that the status quo – application of the Roadless Rule to the Tongass – be maintained by rejecting any alternative that required additional rulemaking to modify the Roadless Rule's application to the Tongass.
>
> Based on my review of the Final EIS and the [planning] record, I believe the best way to bring stability to the management of roadless areas on the Tongass is to not recommend any modifications to the Roadless Rule. Harvest in roadless areas is not necessary to meet the purpose and need of the amendment. The Selected Alternative can be implemented without proposing any new regulations while still achieving transition objectives.

[Draft ROD, p. 17]. The objections I received on the Draft ROD echo the sentiments the Responsible Official referenced in the Draft ROD, with strong viewpoints on both sides of the roadless issue. I also heard these viewpoints expressed at the objection resolution meeting, when the roadless topic was discussed in Juneau. Based on my review of the FEIS, planning record, the comments and objections received, and the TAC's final recommendations, I agree with the

Responsible Official that the Selected Alternative, which assumes that the Roadless Rule continues to apply to the Tongass and does not include any recommended modifications to the Rule, is the best way to bring stability to management of roadless areas on the Tongass.

As discussed in the Draft ROD, the Roadless Rule provides that the construction or reconstruction of roads and the cutting, sale, and removal of trees in inventoried roadless areas may be authorized under certain circumstances [Id.]. These exemptions are listed at 36 CFR § § 294.12(b), 294.13(b), and are discussed in the Alaska Region's *Frequently Asked Questions Regarding Inventoried Roadless Areas* (last updated in February 2016) [available online at http://www.fs.usda.gov/Internet/Roadless_QA]. Of particular relevance to the concerns expressed in these objections, the Roadless Rule does not prohibit authorizations for renewable energy (including geothermal), locatable or leasable minerals, or recreation or subsistence use of the forest. See my response to Issue GEO 1, below, for a complete discussion on the Roadless Rule and mineral access and development, and Issue RE 1, below, for a complete discussion on the Roadless Rule and access to and development of renewable energy resources.

Conclusion

In accordance with the Alaska District Court's decision in *Organized Village of Kake, et al. v. USDA, et al.*, No. 11-35517 (Ninth Circuit), the Roadless Rule remains in effect in Alaska and the Plan Amendment FEIS appropriately recognizes that in its discussions of the Roadless Rule. The Amended Plan is consistent with the Roadless Rule and the Court's decision. Based on my review of the record, I believe the FEIS appropriately recognizes the status of the Roadless Rule in Alaska.

Issue ROAD 3: Objectors contend the Draft ROD does not clearly explain the relationship between the status of the Roadless Rule and timber harvest and road construction in existing IRAs. Objectors further contend that, regardless of the status of the Roadless Rule, the Forest Service must incorporate the protections for IRAs into the Amended Plan and continue to prohibit timber harvest and road construction in Tongass National Forest IRAs, as the FEIS assumes no harvest or road construction in any IRA under the Selected Alternative. If the protections to IRAs only apply if the Roadless Rule remains in effect on the Tongass, then objectors contend the Forest Service will violate NEPA and the APA if they allow timber harvest and road construction in IRAs, as the effects of such activities were not analyzed in the Plan Amendment FEIS.

In addition, objectors contend the Amended Plan should protect the IRAs identified in the most current roadless inventory for the Tongass National Forest

Objector(s): Earthjustice, et al. (Objection #0039)

Response

Objectors express concerns about the relationship between the status of the Roadless Rule and the activities allowed under the Selected Alternative. The IRAs identified in the maps as depicted in the 2000 Roadless Area Conservation Rule EIS, Volume 2, are identified as lands not suitable for timber production under the Selected Alternative [FEIS, p. 2-41]. Therefore, no timber harvest or associated road construction or reconstruction would occur in these IRAs regardless of the status of the Roadless Rule.

If the status of the Roadless Rule were to change with regard to its applicability to the Tongass National Forest, a forest plan amendment would be necessary if the Forest decided to pursue modifications to the suitable timber base to include IRAs. With regard to other activities that might include road construction or reconstruction or the cutting, sale, or removal of timber, prior to approving such activities, the Forest would need to follow the procedures for considering new information outlined in the Forest Service NEPA Handbook at FSH 1909.15, Chapter 10, Section 18.1 to determine if the changed status of the Roadless Rule constituted significant change related to environmental effects.

During the objection resolution meeting in Juneau, some of the objectors suggested the Region could update the 2000 Tongass IRA maps, presumably based on the roadless area evaluation conducted in 2002-2003 in support of the Supplemental EIS for the Tongass Plan Revision, Roadless Area Evaluation for Wilderness Recommendations. It was suggested by the objectors that updating the IRA maps is a ministerial action that may occur under the 2001 Roadless Rule [objection resolution meeting transcript, October 17, 2016, p. 511, PR #769_01558].

With the publication of the Roadless Rule FEIS, USDA defined IRAs as those areas identified in the set of maps contained in Volume 2 of the FEIS [66 Fed. Reg. 3250 (Jan. 12, 2001)]. Technical corrections ("clerical, typographical or other technical error") can be made to these maps; however, the 2000 definition of IRAs, which relies on this set of maps, does not apply to future areas that may be inventoried for wilderness consideration or other purposes [Id.]. The Roadless Rule identifies no other mechanism for revision of the IRA maps, and any land area additions or subtractions would require further rulemaking. Since the roadless area evaluation prepared in 2002-2003 was conducted for wilderness consideration purposes rather than as a regulatory proposal concerning modification of roadless area boundaries, modification of the mapped boundaries of the IRAs cannot be undertaken as a ministerial act and would require agency rulemaking as described by Alternatives 2 and 3.

Conclusion

The IRAs identified in the maps as depicted in the 2000 Roadless Area Conservation Rule FEIS, Volume 2, are identified as lands not suitable for timber production in the Amended Plan [FEIS, p. 2-41]. No timber harvest or associated road construction or reconstruction would occur in these IRAs regardless of the status of the Roadless Rule.

Geology (Mining, Karst and Caves)

Issue GEO 1: Objectors contend the Draft ROD failed to mention mining, and that the Forest Service should have used the Plan Amendment as an opportunity to add a Mineral and Strategic Mineral Land Use Designation (LUD) to the Forest Plan to promote and support mineral and strategic mineral development. In addition, objectors contend the Forest Service missed an opportunity to modify the Roadless Rule to increase access to mining claims and development.

Objector(s): Alaska Power & Telephone Company (Objection #0006)
Jim Clark & Frank Murkowski (Objection #0008)
Ketchikan Chamber of Commerce (Objection #0013)
Resource Development Council (Objection #0018)
City of Wrangell (Objection #0021)
Alaska Miners Association (Objection #0031)
First Things First Alaska Foundation (Objection #0009)
Hyak Mining (Objection #0020)
Ketchikan Gateway Borough (Objection #0050)

Response

The CEQ regulations implementing NEPA require agencies to "specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action" [40 CFR § 1502.13]. For the Tongass Plan Amendment, this purpose and need is described in Chapter 1 of the FEIS and responds to 1) the July 2013 memo from the Secretary of Agriculture directing the Tongass National Forest to transition its forest management program to be more ecologically, socially, and economically sustainable; and 2) concerns expressed in the Five-Year Review of the Forest Plan. The Plan Amendment FEIS states that the purpose of the Amendment is to:

- Review lands within the plan area to determine suitability for timber production, especially young-growth timber stands;
- Identify the projected timber sale quantity (PTSQ) and the sustained yield limit (the ecological yield of timber that can be removed annually on a sustained yield basis);
- Establish plan components for young-growth forest management and renewable energy development to guide future project decision-making; and
- Consolidate modifications made to the Forest Plan since its approval in 2008.

[FEIS, p. 1-8]. Given the purpose and need for the Plan Amendment, the objectors' contention that the Forest Service should have considered adding a Mineral and Strategic Mineral LUD to the Forest Plan to promote and support mineral and strategic mineral development is outside the scope of the Plan Amendment. However, I will provide some information that responds to the objectors' concerns.

The Tongass Forest Plan already contains a Minerals LUD, which is an overlay LUD that currently encompasses approximately 249,570 acres of the Tongass National Forest [Draft ROD, p. 7]. This Minerals LUD is applied to areas included in approved Plans of Operations, so the acreage included in this LUD could change as new Plans of Operation are approved. It is also

used as criteria in the planning and design of proposed mineral developments [Amended Plan, p. 3-123; see also 2008 Forest Plan, p. 3-122]. While the intent of the Minerals LUD is to encourage exploration and development of locatable minerals in areas of high mineral potential, the Plan recognizes the right of every United States citizen to prospect and explore all public lands that are open to mineral entry. This right of reasonable access is guaranteed and is not at the discretion of the Forest Service [FEIS, p. 3-351].

As stated in the Amended Plan, the forest-wide goal for Minerals and Geology is to:

> Provide for environmentally sound mineral exploration, development, and reclamation in areas open to mineral entry and in areas with valid existing rights that are otherwise closed to mineral entry. Seek withdrawal of specific locations where mineral development may not meet LUD objectives. Maintain inventory of surficial geology, geomorphic features, geologic hazards, and paleontological resources.

[Amended Plan, p. 2-4]. Specifically for lands within the Minerals LUD, the goals are stated as:

> To encourage the prospecting, exploration, development, mining, and processing of locatable minerals in areas with the highest potential for minerals development.
>
> To ensure minerals are developed in an environmentally sensitive manner and other high-valued resources are considered when minerals developments occur.

[Id., p. 3-123]. In summary, I believe the existing Minerals LUD already accomplishes the objectives of the Mineral and Strategic Mineral LUD proposed by the objectors.

With regard to the effects of the Amended Plan on locatable and leasable minerals, the Plan Amendment FEIS indicates that the effects of the alternatives are not discussed in detail as there are no aspects of the Amended Plan that would have a specific direct or indirect effect on activity related to these minerals. Given the purpose and need for the Amendment and the fact that none of the alternatives proposed any changes to the Minerals LUD, I believe the discussion in the FEIS with regard to minerals is adequate.

Objectors contend that the Forest Service should modify the Roadless Rule to allow access to mining claims and development. As provided in the Rule at 36 CFR § 294.12 (b)(3), a road may be constructed or reconstructed in an IRA if the Responsible Official determines that a road is needed pursuant to reserved or outstanding rights, or as provided for by statute or treaty. The General Mining Law of 1872, as amended, guarantees the statutory right of reasonable access for the exploration and development of locatable minerals, and the Roadless Rule recognizes that right. Determination of access requirements for exploration and/or development of locatable minerals is governed by Forest Service regulations at 36 CFR Part 228 [see, for example, 66 Fed. Reg. 3253; Roadless Rule FEIS, Vol. 1, p. 3-354].

During the objection resolution meeting, several objectors expressed concerns about leasable minerals, particularly geothermal leasing. It is important to clarify that the Roadless Rule does not prohibit the issuance of new mineral leases, including geothermal leases. It does prohibit the construction of new roads in conjunction with new mineral leases [Id.]. However, it is also important to note that, unlike locatable minerals, mineral leasing laws are clear that mineral

leasing is a wholly discretionary activity. In making a decision to make minerals available for leasing on the Tongass National Forest, the determination as to what restrictions should be placed on surface occupancy, as well as how access will be provided, are within the discretion of the Forest Service. The Roadless Rule FEIS discussed the effects of the Rule on mineral leasing activity [see, for example, Roadless Rule FEIS, pp. 2-9, 3-250 to 260, and 3-313 to 3-321]. As stated in the Plan Amendment FEIS, no leasable materials are currently being produced on the Tongass, and demand is expected to remain low. Geothermal resources occur in 19 known locations in Southeast Alaska. While the potential for geothermal resources is considered high in several locations and some exploration could occur, geothermal development activity is not anticipated in the near future [FEIS, pp. 3-352 to 3-353]. See my response to Issue ROAD 2, above, for further discussion of the Roadless Rule and its status on the Tongass National Forest.

Conclusion

The objectors' contention that the Forest Service should have considered adding a Mineral and Strategic Mineral LUD to the Forest Plan to promote and support mineral and strategic mineral development is outside the scope of the Plan Amendment. I believe the analysis of the effects of the Amended Plan on locatable and leasable minerals is adequate and supported by the record.

Issue GEO 2: Objector contends the Sealaska Lands Act reduced the acreage of the Kosciusko and Northern Prince of Wales Geologic Special Interest Areas (SIAs), and the Plan Amendment FEIS failed to explain this reduction and failed to analyze the effects of the reduction on the significant cave and karst resources within the SIAs. If Congress did not intend the new LUD IIs to replace the existing SIAs, then objector contends all NFS lands previously designated within a Geologic SIA to protect unique karst features should retain the SIA status even if they are now located outside the legislated LUD II areas.

Objector(s): Southeast Alaska Conservation Council (Objection #0040)

Response

Objector is correct in that the Draft ROD map is inaccurate with respect to the Geologic SIAs and the LUD II lands included in the Sealaska Lands Act. The NFS lands within the Geologic SIAs that are outside the new legislated LUD II areas will continue to be managed to protect the karst features on those lands, and I am directing the Responsible Official to correct the SIA layer and ROD map to properly reflect the remaining Geologic SIA lands, the North Prince of Wales, Western Kosciusko, and Eastern Kosciusko Conservation Area LUD II's, and land ownership.

Sealaska acquired lands as a result of the Sealaska Lands Act prior to the publication of the DEIS for the Plan Amendment. Therefore, the existing condition described and considered in the DEIS included the changes in land ownership resulting from the Act. The Tongass National Forest retained management of 69,825 acres of Geologic SIAs and new LUD II management areas. Approximately 1,465 acres of former Geologic SIAs are now under Sealaska ownership [Attachment #B8]. In discussing the existing condition of the karst and cave resource, the EIS acknowledges that "the land ownership of some of the Geologic [SIAs] was transferred to the Sealaska Corporation" [FEIS, p. 3-31]. While the EIS does not provide the specific information

contained in the record about the SIA acreage transferred to Sealaska, it does acknowledge that "extensive landscape changes and ground disturbance have occurred and are likely to continue to occur on non-federal lands in Southeast Alaska," and that "Forest Service regulations requiring protection of karst resources do not apply to non-federal lands" [FEIS, p. 3-36].

Conclusion

In my opinion, the Forest appropriately identified the existing condition of the karst and cave resources, and adequately considered the potential cumulative effects on those resources resulting from management activities on non-federal lands.

As discussed above, I am directing the Responsible Official to correct the Draft ROD map to clearly show that any NFS lands within the Geologic SIA's that are outside the new LUD II management areas will continue to be managed in accordance with Geologic SIA direction. The SIA layer and the ROD map should properly reflect the remaining Geologic SIA lands and the North Prince of Wales, Western Kosciusko, and Eastern Kosciusko Conservation Area LUD II management areas. To clarify the extent of the changes to the Geologic SIAs as a result of the Sealaska Lands Act, I am also directing the Responsible Official to correct the EIS discussion of "LUD Changes Common to the Action Alternatives" [pp. 2-9 to 2-10] to identify the 1,465.16 acres of Geologic SIA acreage that were transferred to Sealaska and the addition of the new LUD II management areas. In addition, the Responsible Official is directed to correct the discussion about the Sealaska Lands Act on page 3-31 of the FEIS to state that "land ownership of approximately 1,465 acres of the Geologic [SIAs] was transferred to the Sealaska Corporation" in place of the current statement that "land ownership of some of the Geologic [SIAs] was transferred to the Sealaska Corporation." This information is in the planning record (in the GIS layers), and is further documented in Attachment #B8, which I am directing the Responsible Official to add to the planning record.

Overall, I believe that the changes to the Geologic SIAs brought about by the Sealaska Lands Act result in very little change to the management of these areas because most of the insurgent karst features are retained in Forest Service management and, therefore, the original goals of the Geologic SIAs are still met.

Wildlife

Inadequate Analysis, Species Viability

Issue WLF 1: Objectors contend the Forest Service violated NFMA's species diversity and viability requirements and NEPA requirements by concluding that implementation of the Selected Alternative will ensure the long-term viability of endemic species, including the red-backed vole, without adequate analysis or rationale for this determination and without adequate rationale for why additional information or additional science regarding endemic species viability was not necessary to the analysis. Objectors further contend:

- The May 2016 Wrangell Island Project DEIS included statements indicating concerns about endemic species viability on the Tongass, and yet these concerns were not disclosed in the Draft ROD or EIS for the Amended Plan;

- The best available science and expert opinions on the potential effects of the Selected Alternative on red-backed voles and flying squirrels were not discussed or disclosed in the EIS for the Amended Plan;
- Endemic species were analyzed collectively as a group instead of individually by species, and therefore the EIS lacked adequate specificity in the analysis to justify the conclusions reached about the effects on endemic species; and
- Missing and/or incomplete data regarding several wildlife and plant species was acknowledged in the EIS, but the relevance of this information to the analysis and the costs of obtaining it were not disclosed (such as data on goshawk, marten, bats, birds, plants, and the lesser long-leaved orchid).

Objector(s): Earthjustice, et al. (Objection #0039)

Response

The primary purpose of an EIS is to insure that the policies and goals of NEPA are integrated into the programs and actions of the federal government. The EIS is intended to provide a fair discussion of significant environmental impacts to inform decision makers and the public [40 CFR § 1502.1]. CEQ's regulations implementing NEPA state that "[EISs] shall be analytic rather than encyclopedic" [40 CFR § 1502.2(a)], and that "[a]gencies are encouraged to tier their [EISs] to eliminate repetitive discussions of the same issue and to focus on the actual issues ripe for decision at each level of the environmental review" [40 CFR § 1502.20]. The regulations at 40 CFR § 1502.22 also provide guidance to agencies in dealing with incomplete or unavailable information:

> When … there is incomplete or unavailable information, the agency shall always make clear that such information is lacking.
>
> (a) If the incomplete information… is essential to a **reasoned choice among alternatives** and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the [EIS] (emphasis added).

Furthermore, guidance on writing an EIS emphasizes that agencies shall reduce excessive paperwork [40 CFR § 1500.4] by:

> (b) Preparing analytic rather than encyclopedic environmental impact statements.
>
> (f) Emphasizing the portions of the environmental impact statement that are useful to decision makers and the public and reducing emphasis on background material.

The EIS is to be "based upon the analysis and supporting data from the natural and social sciences and the environmental design arts" [40 C.F.R. § 1502.8] and "[a]gencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements." [40 C.F.R. § 1502.24]. The NFMA regulations complement and expand on the NEPA regulations regarding the use of science, stating that "[t]he responsible official shall use the best available scientific information to inform the planning process…" and "[i]dentify what information was determined to be the best available scientific information…" [36 CFR § 219.3].

In addition to disclosure and use of best available scientific information, objectors raise NFMA concerns regarding species conservation. NFMA directs managers of NFS lands to "provide for diversity of plant and animal communities ....". The Tongass Forest Plan was developed under the 1982 Planning Rule. No obligations exist from the 1982 Rule, as that rule no longer exists [36 CFR § 219.17(c)]. However, the 2008 Forest Plan's explicit direction "to maintain viable populations of existing native and desirable non-native species well-distributed in the planning area" is not changed in the Amended Plan. The Amended Plan retains the desired condition, stating that:

> Viable populations of native and desired non-native species and their habitat are maintained and are not threatened by invasive species. Viable populations of sensitive and rare species and their habitats are considered and maintained as to preclude the need for listing species as threatened or endangered. There are no threatened or endangered species on the Forest.

[Amended Plan, p. 2-1]. Hence, relevant Forest Plan protections for at-risk species remain. As described further below, the Amended Plan continues to provide for the diversity of plant and animal communities by the management of both ecosystem conditions through the Tongass Conservation Strategy and species-specific conditions through Forest Plan standards and guidelines. This approach is sometimes characterized as the "course filter/fine filter" approach to conservation. Although the diversity of plant and animal communities provision of the 2012 Planning Rule was not applied to this Amendment, the Amended Plan's approach meets the intent of the 2012 Planning Rule to provide the ecological conditions to maintain species diversity, and fulfills the obligations under NFMA to provide for the diversity of plant and animal communities based on the suitability and capability of the specific land area to meet overall multiple-use objectives.

The analysis in the FEIS and planning record demonstrates that the Forest Service carefully examined the scientific information received from the objectors and others during the planning process (along with other scientific information), and thoroughly considered that information in making conclusions that the Amended Plan will maintain the viability of species. The focused Amended Plan and accompanying FEIS [Draft ROD, p. 11-14] tier to the substantial scientific analyses conducted for the 1997 and 2008 Tongass Forest Plan decisions. This body of analyses, in conjunction with the analyses in the Plan Amendment FEIS and planning record, demonstrates a thorough consideration of the conservation status (distribution and viability) of fish, wildlife, and plants on the Tongass, and an adequate disclosure of that science to inform a reasoned choice among alternatives.

The scope of the Plan Amendment was narrow, and the Forest Service deliberately retained the basic structure of the Tongass Conservation Strategy, thereby tiering to the extensive and thorough scientific analyses, peer reviews, and conservation design work involved in developing both the 1997 Forest Plan [pp. 3-31 through 3-39, 3-351 through 3-360, and Appendix N] and the 2008 Forest Plan [Appendix D]. This is explicitly noted in the Draft ROD, which states that "this narrowly focused Tongass Forest Plan Amendment builds upon the work previously done to revise and amend the Forest Plan, as described [in the ROD] for the 2008 Tongass Forest Plan Amendment" [Draft ROD, pp. 32-33]. I believe the considerable record of scientific analyses

leading to the 1997 and 2008 Forest Plan decisions represent critical science supporting the Amended Plan; the Plan Amendment FEIS and planning record tier to this earlier work regarding species distribution and viability.

Based on the revised Sensitive Species list and consultation with the National Marine Fisheries Service (NMFS) and the USFWS to identify federally-listed species, the planning record demonstrates that the Forest carefully examined the potential direct, indirect, and cumulative effects of the alternatives, including the Selected Alternative, on at-risk species as required by NFMA. This careful analysis affirmed that the viability of these species would not be compromised by the proposed action [PR #769_01263; PR #769_00808; PR #769_01264; PR #769_01699]. In addition, building on the analyses conducted for the 1997 and 2008 Forest Plans, the FEIS considers the effects on a broad range of taxa, including those mentioned by objectors [see, for example, FEIS, pp. 2-278, 3-148, 3-248, 3-258 through 3-260, 3-270 through 3-272, 3-282; see also PR #769_01263].

The objectors raise the specific concern that the FEIS and Amended Plan did not adequately address particular taxa. One of those species is marten. As indicated in the Amended Plan, plan components are in place for this species [Plan, p. 4-92], and the adequacy of this protection was discussed in the Response to Comments:

> The FEIS acknowledges both American and Pacific marten and discusses that the existing Forest Plan guidance on marten (WILD1. XVIII) is intended to apply to all marten across the Tongass National Forest. Accordingly, no additional standards and guidelines specific to Pacific marten were added to the Forest Plan.

[FEIS, Appendix I, p. I-191]. Objectors also suggest that the FEIS's consideration of the status (viability) of endemic mammals, particularly the southern red-backed vole, was insufficient. Objectors note that in May 2016, the DEIS for the Wrangell Island Project was released, and that it suggested viability concerns for endemics. Objectors point out that the Wrangell DEIS stated:

> Within Southeast Alaska, roughly 20 percent of known mammal species and subspecies have been described as endemic to the region. The long-term viability of these endemic populations is unknown, but of increasing concern since island endemics are extremely susceptible to extinction because of restricted ranges, specific habitat requirements, and sensitivity to human activities such as species introductions.

[Wrangell DEIS, Chapter 3, p. 83]. The ideas noted in the Wrangell DEIS (such as the understanding that endemic species in archipelago environments are at increased risk due to the geographic context leading to restricted ranges) have been recognized and represent one of the factors motivating the careful examination of forest management effects on endemic species in the analyses conducted for the 1997 and 2008 Forest Plans and the analyses conducted for the Plan Amendment [see 1997 FEIS, pp. 3-410 through 3-415; 1997 FEIS, Appendix N, pp. N-9 through N-13; 2008 FEIS, pp. 2-55, 3- 170 to 3-171, 3-196 to 3- 197, 3- 248 to 3-250, 3-289 through 3-298; 2008 Plan, Appendix D; 2016 FEIS, pp. 3-247 through 3-250]. This was also considered in the 2009 Sensitive Species evaluation. With clear consideration of the basic global concerns regarding threats to endemic species, and in light of the Tongass Conservation Strategy, the red-backed vole and other endemic species have consistently been considered secure. The protections of the 1997 and 2008 Forest Plans will continue with the Amended Plan [see FEIS

references above and Amended Plan, p. 4-93]. While these taxa have been discussed as a group under the label endemics, consideration of individual species was explicit in the in-depth analyses for the 1997 and 2008 decisions, as demonstrated in the associated FEIS's, and when heightened concerns developed, individual species were further examined (as illustrated for the Prince of Wales flying squirrel).

Objectors also contend that the Plan Amendment FEIS did not adequately consider the flying squirrel. In response to concerns for flying squirrel [see, for example, the 1997 FEIS, pp. 3-410 through 3-415], specific design criteria were included in the Tongass Conservation Strategy when the reserve design was originally developed, as noted in the 1997 FEIS:

> Two of these 26 taxa, northern flying squirrel and river otter, were the focus of specific measures in the original VPOP strategy. Small HCA's were adopted by the VPOP committee to provide for distribution of northern flying squirrels in every major watershed (i.e., every 10,000 acres). The size of these HCA's was intended to allow them to support 20 to 40 squirrels. VPOP also recommended that travel corridors be maintained between patches of flying squirrel habitat. They considered beach fringe and riparian zone to be suitable corridors, and recommended that additional corridors be designated in areas where these did not provide adequate connectivity.

[1997 FEIS, p. N-11]. Documentation of the careful consideration of the flying squirrel continued through the 2008 FEIS [pp. 3-196 to 3-197, 3-223, 3-243 through 3-250, 3-287 to 3-288; Appendix D, pp. D-3, D-69 through D- 73] and in the FEIS for the Plan Amendment [FEIS, pp. 3-247 through 3-250, 3-284 through 3-285; Appendix D, pp. D-8, D-11; Appendix I, p. I-29]. Citations in the FEIS demonstrate a thorough review of the current science on flying squirrels [pp. D-24, D-25]. The conservation status of flying squirrels was also considered in 2009 during the comprehensive review of species [PR #769_00690, p. 94 and supporting documents], providing a strong science foundation for consideration of the species in the Plan Amendment FEIS and Amended Plan. Furthermore, the thorough review of the conservation status of the Prince of Wales flying squirrel by the USFWS in 2012 provided substantial context for the consideration of the alternatives for the Amended Plan [77 Fed. Reg. 52301-52308; PR #769_01564]. This included consideration of habitat connectivity and recent literature.

The lesser round-leaved orchid was also noted as a concern by the objectors. Its status was carefully considered in the Plant Biological Evaluation (BE) completed for the Amended Plan [PR #769_01699] which concluded that "there would be a relatively low chance of adverse effects to this species under all alternatives" [p. 21].

Finally, objectors raise concerns regarding goshawk viability in light of an evaluation of goshawk conservation on the Tongass published by Smith (2013) and other recent assessments. Objectors suggest that the conclusions and recommendations in Smith (2013) and other science provided by the objectors related to goshawk were not carefully considered. The record suggests otherwise. The Amended Plan retains the standards and guidelines and other plan components for goshawk (northern goshawk and Queen Charlotte goshawk subspecies), and expands those plan components in response to public and agency input [Amended Plan, pp. 4-95 to 4-96]. As evidenced in the FEIS and planning record [see, for example, Appendix D, pp. D-4, D-19 to D-20], goshawk conservation was carefully considered. The planning record demonstrates that,

in addition to strengthening of the standards and guidelines for goshawk, information on the species ecology from the scientific literature (including Smith 2013, which is referenced in Appendix D to the FEIS on page D-24) and other assessments were repeatedly considered by the Forest Plan interdisciplinary team (IDT) with respect to the Tongass Conservation Strategy, conservation of species, and the characteristics of the different alternatives considered [PR #769_00932; PR #769_00024, pp. 9 to 14, 17; see also Attachments #B23, #B24]. The Wildlife BE thoroughly considered the effects of the Plan Amendment alternatives on goshawk viability [PR #769_01263].

As an example of IDT deliberations regarding goshawk, including consideration of post-fledging areas, which are a focus of the Smith (2013 analysis), the DEIS stated:

> Alternatives 2, 3, 4, and 5 propose a revision to the Goshawk standards and guidelines which address nesting habitat. These standards and guidelines expand the requirement to maintain 100 acres of POG forest surrounding a nest tree or nest site to include the largest diameter young-growth forest if POG alone is not sufficient. The proposed modification would provide greater protection to goshawks and their habitat, and therefore would strengthen this standard and guideline.

[Appendix D, p. D-16]. This direction was carried forward in the Amended Plan [p. 4-92].

Conclusion

Based on my review of the Draft ROD, FEIS, Amended Plan, and planning record, I believe the Forest adequately evaluated and disclosed the conservation status (distribution and viability) and effects of the Amended Plan on fish, wildlife, and plants, including the species mentioned by the objectors, consistent with the requirements of NEPA and NFMA.

Management Direction for Old Growth

Issue WLF 2: Objector contends the Forest Service violated NEPA by not adequately analyzing the proposed young-growth harvest in the Old-Growth Habitat LUD. Objector further contends that while the analysis assumes this will benefit wildlife (exchanging poor young-growth habitat for habitat-rich old-growth habitat), it ignores the potential effects of exchanging high-quality young growth for poor-quality old growth. Objector believes that not all old growth is automatically valuable and not all young growth is automatically non-valuable, and that the proposed old-growth habitat exchange includes risks to wildlife habitat quality and habitat connectivity that were not adequately recognized and considered in the analysis.

Objector(s): Audubon (Objection #0041)

Response

The 2008 Forest Plan [pp. 3-57 through 3-62] specifies the forest-wide standards and guidelines for the Old-Growth Habitat LUD. Standards and guidelines for additional resources affecting wildlife and wildlife habitat conservation, including management of riparian and legacy forest structure, are provided in Chapter 4 of the 2008 Plan, with pages 4-89 through 4-91 being

particularly applicable to this issue. Appendix K of the 2008 Forest Plan describes the criteria for changing boundaries of old-growth reserves (OGRs) at the project level, consistent with guidance provided in the above-cited old growth and wildlife standards and guidelines.

The FEIS developed in support of the Amended Plan includes an abundance of discussion related to the habitat suitability, availability, and tradeoffs between young-growth forests of all ages and productive old-growth forests of varying capability. The FEIS evaluates the current availability of different forest types, and provides an assessment of suitability for a diverse array of dependent wildlife and/or their primary prey. For example, of the approximately 544,000 acres of young-growth forest on the Tongass National Forest, the FEIS notes:

> [A]pproximately 84 percent is a result of past timber harvest and approximately 15 percent a result of natural processes (e.g., wind, fire, glacial retreat). Over 90 percent of the harvested young growth is from even-age harvest. Approximately 20 percent of young growth from even-age harvest is 25 years old or younger, in the stand initiation stage. Of this age class, stands up to about 10 years tend to have high species diversity, in particular their shrub layer, which expands as a result of the open canopy after harvest. The remaining approximately 80 percent of young growth is older and mostly in the stem exclusion stage. This type of stand condition has very low species diversity.

[FEIS, p. 3-192]. The FEIS also evaluates other habitat types, and discusses their contribution to biodiversity and suitability as habitat for a diversity of native wildlife. The FEIS states:

> Approximately 27 percent of the Tongass is classified as unproductive forest (Table 3.9-2). Many unproductive forest stands meet the definition of old growth, but the trees are typically small and stunted (under 40 feet in height) and the canopy is open (10 to 40 percent canopy closure). Non-forest ecosystems provide valuable habitat types that include wetland and other areas of shrub and herbaceous types (e.g., muskegs, alder and willow brush, alpine, estuaries), non-vegetated areas (e.g., snow, rock, ice), and aquatic sites (e.g., streams, ponds, and lakes). These habitats contribute greatly to the species diversity on the Tongass National Forest by providing a mosaic of habitat types throughout the otherwise forest-dominated landscape. They also provide unique microsites and openings that contain shrub and herbaceous vegetation within forested stands. Approximately 40 percent of the Tongass National Forest consists of non-forest lands (Table 3.9-2).

[FEIS, p. 3-193]. In addition to these discussions of habitat availability and suitability, the Wildlife section provides ample examples of habitat use, dependence, and preference, if any, for productive old growth (POG) verses young growth, and how each habitat type contributes to supporting species on the landscape. For example, the FEIS reports:

> High-volume POG represents optimal nesting and foraging habitat for goshawks due to the presence of large trees and snags. Goshawk foraging areas typically consist of mature and old-growth forest stands, though they will also forage in young forest as well as along edges and in openings as long as suitable perches from which to observe and attack prey are present. When mature and old-growth habitats are not available, they will nest in

> maturing young growth with sufficient structure (Reynolds et al. 2006; Boyce et al. 2006). Nesting in mature young growth is less common, and occurs in proportion to the amount of this habitat available on the landscape, suggesting goshawks neither prefer nor avoid its use (USFWS 2007).

[FEIS, p. 3-226]. Another example of a comparative analysis of forest cover types was in relation to the Sitka black-tailed deer, a former Management Indicator Species (MIS):

> Sitka black-tailed deer use lower elevation (below 800 feet elevation) POG forest habitats during the winter period. The quantity, quality, distribution and arrangement of winter habitat are considered the most important limiting factors for Sitka black-tailed deer in Southeast Alaska. However, spring, summer, and fall habitats (non-winter) are also important for deer reproduction and population recovery following severe winters, and for building up pre-winter body reserves. During these seasons, and during mild winters, deer will forage in young-growth stands less than about 25 years old and other open non-forested habitats.

[FEIS, p. 3-230]. In addition to providing thorough assessments of how wildlife species utilize the variety of forests and other habitat types, the analyses in the FEIS evaluate how future actions may modify the availability of these habitats, and what the potential outcomes may be. The FEIS summarizes these potential effects and outcomes, including the viability assessments for affected wildlife species [pp. 3-257 through 3-296].

The Tongass Conservation Strategy established as part of the 1997 Forest Plan provided a comprehensive, science-based management foundation for wildlife sustainability and viability across the Tongass. The Conservation Strategy was developed to maintain the integrity of a functional and interconnected old-growth ecosystem on the Tongass by retaining intact, largely undisturbed habitat well distributed across the Forest. The Strategy emphasized old-growth habitats because most of the former MIS, endemic wildlife, and other species of special interest are associated with POG forests of Southeast Alaska either directly or because they rely on prey species associated with these habitats. The FEIS demonstrates that although many wildlife species may utilize young-growth forests when available, the abundance and distribution of old-growth forest habitats are what support viable wildlife populations on the Tongass. As noted in Appendix D [p. D-22] to the FEIS:

> All of the alternatives are expected to maintain a functional and interconnected old-growth ecosystem, capable of supporting well-distributed, viable populations of wildlife across the planning area.

Conclusion

Based on my review of the FEIS, Draft ROD, Amended Plan, and planning record, I believe the Forest conducted a thorough and species-specific programmatic analysis of the potential effects of the proposed young-growth harvest in the Old-Growth Habitat LUD and elsewhere throughout the Tongass.

Issue WLF 3: Objector contends the Forest Service violated NFMA and NEPA by failing to adequately analyze and disclose how the proposed high-grading of high-volume POG is consistent with requirements for ensuring wildlife habitat diversity, species viability, and maintaining a natural range of habitat diversity across the forest. Objector further contends that high-volume POG areas are extremely valuable to wildlife and have been disproportionally logged (high-graded) in the past, creating an even stronger need to preserve POG wildlife values.

Objector(s): Defenders of Wildlife (Objection #0034)

Response

As stated above, an EIS is intended to provide a fair discussion of significant environmental impacts to inform decision makers and the public [40 CFR § 1502.1]. CEQ's regulations implementing NEPA state that "[EISs] shall be analytic rather than encyclopedic" [40 CFR § 1502.2(a)], and that "[a]gencies are encouraged to tier their [EISs] to eliminate repetitive discussions of the same issue and to focus on the actual issues ripe for decision at each level of the environmental review" [40 CFR § 1502.20]. Furthermore, guidance on writing an EIS emphasizes that agencies shall reduce excessive paperwork [40 CFR § 1500.4] by:

> (b) Preparing analytic rather than encyclopedic environmental impact statements.
>
> (f) Emphasizing the portions of the environmental impact statement that are useful to decision makers and the public and reducing emphasis on background material.

The FEIS for the Amended Plan tiers to and incorporates the analyses completed for the 1997 Tongass Plan Revision and the 2008 Tongass Plan Amendment. Appendix D of the Plan Amendment FEIS evaluates the integrity of the Tongass Conservation Strategy, and this review includes an analysis of the previous harvest projections for productive old-growth (POG) forest compared to actual harvest levels [FEIS, Appendix D, p. D-5]. This discussion summarizes the analysis by reporting that "matrix lands contain a substantially greater amount of POG than was assumed in the 1997 Forest Plan revision and many OGRs and non-Development LUDs are surrounded by additional unharvested areas," indicating that the current distribution and abundance of POG is greater than projected or modeled [Id.].

The Biodiversity analysis in Chapter 3 of the FEIS provides a visual breakdown of the Tree Size and Density Model (SDM) used to describe forested conditions across the Tongass National Forest [FEIS, Figure 3.9-2, p. 3-190]. This figure displays the various forest cover types by land and forest condition and tree size and density, and also provides a graphic illustration of what a stand of each SDM class could look like on the ground. Tables 3.9-2, 3.9-4, and 3.9-6 [Id., pp. 3-190, 3-193, 3-196] display major cover types, the forest-wide distribution of young growth (NFS only), and an assessment of POG by SDM class and elevation, broken down by biogeographic province. Table 3.7-7 displays the "Remaining POG on All Ownerships in 2015 as a Percent of all Original POG" [Id., p. 3-170].

The Wildlife BE [PR #769_01263] references Tables 3.9-16, 3.9-17, and 3.9-18 in the Biodiversity section of the FEIS, noting:

> After 100 years of Forest Plan implementation, cumulative POG harvest levels on all lands of Southeast Alaska would maintain approximately 83 percent of the original (1954) total POG under Alternative 1. Harvest levels on FS lands would be less under Alternatives 2, 3, 4, and 5 but would also maintain approximately 83 percent of the original total POG after implementation of the alternatives cumulatively with future harvest on non-FS lands (FEIS Table 3.9-16).

In my opinion, the FEIS and planning record include a thorough assessment of the availability of and the Amended Plan's effects on the various types and size classes of POG. The record includes significant evidence of these analyses [PR #769_00459, PR #769_00631, PR #769_00850, PR #769_00851, PR #769_00857, PR #769_00858, PR #769_01337, PR #769_01339, PR #769_01340, PR #769_01346]. The BE and the FEIS Biodiversity [pp. 3-183 to 3-220] and Wildlife [pp. 3-221 to 3-296] sections provide summary assessments of these analyses and otherwise disclose the potential effects on wildlife and their habitats.

These records and associated analyses display the effects of harvest on all size classes of POG, including an overview of the past history of high-volume and large tree POG harvest [see FEIS, Biodiversity section, p. 3-195]. The FEIS summarizes the potential effects of each alternative on wildlife as a result of this harvest. Table 3.10-8 displays the amount of POG forest protected and scheduled for timber harvest under each of the alternatives as well. These summaries and associated analyses are then applied to the expectations established within the Tongass Conservation Strategy, which "was designed to maintain well-distributed, viable wildlife populations across the Forest in the context of past and anticipated old-growth timber harvest." The FEIS concludes that "all of the action alternatives would enhance the Conservation Strategy as a whole over the long term compared to the current Forest Plan by reducing POG harvest and thus maintaining habitat for old growth-associated or -dependent wildlife species" [p. 3-252].

Conclusion

I believe the analysis and disclosure of POG harvest in the Plan Amendment FEIS and planning record is consistent with NEPA disclosure requirements and NFMA requirements for ensuring wildlife habitat diversity, species viability, and maintaining a natural range of habitat diversity across the forest.

Tongass Forest Plan Conservation Strategy

Issue WLF 4: Objectors contend the Forest Service violated NFMA and NEPA by allowing timber harvest to occur in important components of the Tongass Conservation Strategy, including beach and estuary fringe, RMAs, and the Old-Growth Habitat LUD, as well as in other important areas such as the Tongass 77 Watersheds and Audubon/TNC Conservation Priority Areas. Objectors contend that designating these areas as suitable for young-growth timber harvest (clear cuts of up to 10 acres and commercial thinning of up to 35 percent) is not consistent with the intent of the Conservation Strategy that was developed for the 1997 Tongass Forest Plan and was carried forward in the 2008 Amended Plan, and will result in adverse effects on wildlife, contrary to the purposes of these areas as wildlife habitat. Objectors further contend the rationale for this proposal is not based on credible, contemporary, scientific information or expert opinion

(including opinions of those who developed the original Conservation Strategy), and the FEIS does not disclose these opposing scientific views, violating NEPA and NFMA. Objectors also contend that the Forest Service decision to allow harvest to occur in these areas is not based on the best available science, and that by allowing harvest in these areas, the Forest Service will not ensure wildlife viability.

Objector(s): Earthjustice, et al. (Objection #0039)
Audubon (Objection #0041)
GSACC, et al. (Objection #0042)

Response

NFMA directs the Forest to "provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives." The Tongass Plan was developed using the 1982 Planning Rule. No obligations exist from the 1982 Rule, as that Rule no longer exists [36 CFR 219.17(c)]. However, the 2008 Amended Forest Plan's explicit direction "to provide the abundance and distribution of habitat necessary to maintain viable populations of existing native and desirable introduced species well-distributed in the planning area" [2008 Plan, p. 4-89] is not changed in the Amended Plan, and therefore the direction remains in force [see Amended Plan, p. 4-85]. As stated in the Draft ROD, "[m]aintaining the integrity of the Old-growth Habitat Conservation Strategy was a major consideration in alternative development" [Draft ROD, p. 8].

Together, NEPA and NFMA direct the Forest Service to discuss how it employs the best available scientific information to analyze and disclose the consequences of its programs and actions to inform decisions makers and the public [40 CFR § 1502.8; 40 CFR § 1502.24; 40 CFR § 1502.1; FSM 1909.12, Zero Code 07]. Clear guidance regarding the scope or extent of this disclosure comes from the CEQ regulations implementing NEPA at 40 CFR § 1502.2(a), which state that "[EISs] shall be analytic rather than encyclopedic." The regulations also state that "[a]gencies are encouraged to tier their [EISs] to eliminate repetitive discussions of the same issue and to focus on the actual issues ripe for decision at each level of the environmental review" [40 CFR § 1502.20]. The CEQ regulations at 40 CFR § 1502.22 also provide guidance to agencies in dealing with incomplete or unavailable information, indicating that:

> When … there is incomplete or unavailable information, the agency shall always make clear that such information is lacking.
>
> (a) If the incomplete information… is essential to a **reasoned choice among alternatives** and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the [EIS]" (emphasis added).

The Plan Amendment FEIS (including appendices) and the planning record, in conjunction with the 1997 and 2008 FEIS's and planning records (and associated references), thoroughly discuss the critical characteristics of the Tongass Conservation Strategy, the scientific basis for the Strategy, modifications to the contributing elements of the Strategy proposed by each of the Plan Amendment alternatives, and the extent to which the Amended Plan would function to retain the integrity of the Conservation Strategy and therefore meet the objective to conserve old-growth associated species, providing reasonable assurance of viability. In accordance with

NEPA [40 CFR § 1502.1], the FEIS presents a "fair discussion of significant environmental effects" of the alternatives to inform decision makers and the public, facilitating a reasoned choice among alternatives. Likewise, the Plan Amendment FEIS, the associated planning record, and the other documents the FEIS tiers to illustrate that the Forest carefully evaluated the conservation status of individual species, specifically considering young-growth timber harvest in key conservation areas, in light of new scientific information relevant to making a reasoned choice among alternatives, as outlined below.

The Plan Amendment process was narrowly focused, building on previous analyses and disclosures as explicitly noted in the Draft ROD [pp. 32, 33]. Substantial revision of the Conservation Strategy was beyond the scope of the Plan Amendment, and therefore a comprehensive evaluation of the Strategy, with a focus on revision, was not undertaken. Rather, given the narrow scope of the Amendment, "[m]aintaining the integrity of the Old-growth Habitat Conservation Strategy was a major consideration in alternative development" [Draft ROD, p. 8], and the Forest limited its review of the Conservation Strategy to reviewing the effects of the proposed modifications to contributing elements of the Strategy (allowing young-growth harvest in those areas); acknowledging and reviewing new science relating to old-growth associated species; reviewing the current status of land management on the forest, including projected verses actual timber harvest levels; reviewing ongoing mapping updates; reviewing modifications made to the Strategy since 2008; and reviewing external factors that may have affected the Strategy since 2008, including the land conveyance to Sealaska and the Roadless Rule [FEIS, Appendix D]. While the objectors may have wanted a more comprehensive evaluation and revision of the Strategy, I believe that the review of the Strategy completed for the Amended Plan was extensive and is well-supported by the planning record.

Beyond their demands to more fully evaluate the Conservation Strategy, objectors make two major contentions considered in this response. First, that the integrity or intent of the Conservation Strategy is not maintained because the harvest of second growth in conservation areas such as beach fringe degrades the effectiveness of the Strategy. In conjunction with this contention, objectors indicate that the Forest failed to adequately disclose the science it used to make decisions and did not consider important scientific information from outside sources. Second, objectors contend that the harvest of young-growth forest in conservation areas will result in adverse effects on wildlife and threaten the viability of individual species. In conjunction with this contention, objectors indicate that the Forest failed to adequately disclose the science it used to conclude that species would be conserved, and that the Forest Service did not consider important scientific information from outside sources. These two contentions will be addressed together.

This objection issue is very similar to Issue WLF 5, discussed below. See my response to that issue for a full discussion of the science considered in the Plan Amendment process, the analysis of the Conservation Strategy completed for the Amended Plan, and the Forest's analysis and disclosure of credible scientific data/analysis, previous comments, new information, and opposing viewpoints relevant to whether the Conservation Strategy should have been revised. In my opinion, the planning record clearly supports the FEIS's conclusion that:

> [N]one of the alternatives, when considered in whole, would reduce the ability of the conservation strategy to maintain a functional and interconnected old-growth ecosystem across the planning area and the overall functioning of the conservation strategy in terms of its ability to maintain viable, well-distributed populations of wildlife across the planning area would remain.

This current objection issue differs from Issue WLF 5, below, largely by suggesting that harvest of young-growth forest in beach and estuary fringe, RMAs, and other conservation areas fundamentally compromises the Conservation Strategy, rendering the Strategy's old-growth reserve design unable to meet its goal of conserving old-growth associated species. As disclosed in the FEIS, these conservation areas do play a critical role in the Conservation Strategy, providing connectivity to facilitate the movement of old-growth associated species [see, for example, Appendix D, pp. D-8, D-13, and D-17]. The potential effects of harvesting young growth in these areas on habitat connectivity were disclosed and carefully considered in the Plan Amendment FEIS. As examples, the FEIS discusses the characteristics of landscape connectivity and fragmentation [pp. 3-198 through 3-200, 3-222], the components of matrix management [pp. 3-201], and the potential negative effects on connectivity resulting from young-growth harvest [p. 3-205]. The FEIS acknowledges the potential adverse effects of young-growth harvest in these areas of the Conservation Strategy [pp. 3-252 through 3-256], including the statement that "young-growth timber harvest proposed in these areas has the potential to affect the integrity of the Conservation Strategy" [p. 3-254].

The FEIS compares the alternatives considered for the Amended Plan, disclosing differences in young-growth harvest and the associated effects on the ecological functions of beach and estuary fringe, RMAs, and other conservation areas [p. 3-254]. The spatial extent of young-growth harvest in these areas is displayed, by biogeographic province and by alternative, in Appendix D of the FEIS, illustrating the limited spatial extent of young-growth harvest compared to the extent of these ecological features [pp. D-10 through D-19]. This information provides a critical look at the scope of influence of young-growth harvest on connectivity and other ecological functions. As noted in the FEIS:

> Appendix D contains a review of possible effects to the Conservation Strategy [based on the] changes that are proposed, such as young-growth harvest in the beach fringe. Forest-wide, suitable acres of young growth in the beach fringe, RMAs, and Old-Growth Habitat LUD are about 2 percent, 4 percent, and 3 percent of the total acres in [those components], respectively. Projects must still maintain landscape connectivity per WILD1.VI.A (Chapter 4) and several Young-Growth plan components in Chapter 5 set constraints and expectations on young-growth harvest.

[Appendix I, p. I-42]. The FEIS goes on to identify some of these young-growth plan components [Id.].

Appendix D (similar to Appendix N completed for the 1997 Revision and Appendix D completed for the 2008 Plan Amendment) provides a thorough summary of the ecological analysis of the effects of the alternatives on the Conservation Strategy. It concludes that "the results of the analysis… indicate the conservation strategy currently functions as intended and is expected to function regardless of which alternative is selected" [p. D-5].

The FEIS considers the effects of young-growth harvest, including a review of functional connectivity, for a broad range of species. Examples include marten [pp. 3-235 through 3-236] and the Prince of Wales flying squirrel [pp. 3-249 through 3-250, 3-284 through 3-285]. The Wildlife BE [PR #760_01263, pp. 17 to 24] provides further consideration of the effects of young-growth harvest, including negative effects on habitat connectivity. Based on the analyses in the FEIS and planning record, particularly the BE [PR #760_01263] and Appendix D, the FEIS acknowledges that the Amended Plan would have localized effects on habitat, including connectivity. However, the FEIS concludes that the localized nature and extent of young-growth harvest in the beach and estuary fringe, RMAs, and other conservation areas will not compromise species viability [see, for example, FEIS, p. 3-259].

The FEIS also considers the effects of young-growth harvest on the Queen Charlotte goshawk, and this discussion provides a good example of the careful comparison of both the adverse and beneficial effects of young-growth harvest in conservation areas [pp. 3-258 through 3-260]. This analysis of the potential effects on goshawk (and other species) includes consideration of recent scientific information, as demonstrated in the FEIS, Appendix D, and the broader planning record [see, for example, PR #769_01698; PR #769_00932; PR #769_00024, pp. 9-14, 17; and Attachments #B23, #B24]. The 2007 status review by the USFWS added substantially to the science synthesis employed in the Amended Plan. Appendix D [p. D-3] specifically describes the criteria and approach to evaluating species viability, in light of the status of the Tongass Conservation Strategy.

It is important to note that the Amended Plan includes desired conditions, standards and guidelines, management approaches, and other plan components for the beach and estuary fringe, RMAs, and Old-Growth Habitat LUD that will guide specific young-growth projects in these areas. For example, the Amended Plan identifies the desired condition for the beach and estuary fringe, stating that "[t]hese areas provide habitat and connectivity for wildlife" [p. 5-4]. The Amended Plan requires a 200-foot forested buffer in the beach fringe, and includes the requirement that no more than 35 percent of the original harvested stand is harvested [Id., p. 5-5]. This requirement that no more than 35 percent of the original harvested stand is harvested is repeated for RMAs and the Old-Growth Habitat LUD [pp. 5-6, 5-8]. In addition, the Amended Plan includes management approaches requiring that connectivity and other factors be considered during project-level planning to ensure that the function of these areas as contributing elements to the Tongass Conservation Strategy is maintained. For example, one management approach for the beach and estuary fringe is to "consider spatial and temporal conditions of adjacent landscapes" [Id., p. 5-8]. This management approach is repeated for riparian areas [Id., p. 10]. These standards and guidelines, desired conditions, and management approaches are plan components that must be applied to project-level activities. If young-growth projects do not meet the desired condition or otherwise comply with applicable plan components for these areas, the harvest will not be authorized. As a result, these areas will continue to function as contributing elements of the Tongass Conservation Strategy.

See my responses to Issues WLF 1, WLF 5, and WLF 8 for further discussion on the consideration of recent science in the evaluation of species relative to the proposed harvest of young growth in these areas.

Conclusion

In conclusion, I believe the FEIS and planning record demonstrate that the Forest adequately evaluated and disclosed the status of the Conservation Strategy and the effects of the Amended Plan on key species resulting from the harvest of young growth in beach and estuary fringe, RMAs, and other conservation areas. Furthermore, the Forest considered new science relative to this analysis to the extent commensurate with the scope of the Amendment and the need to make a reasoned choice among alternatives. It is important to note that the record, as discussed above, discloses that there will be adverse impacts on habitat, including habitat for key old-growth associated wildlife, resulting from the harvest of young-growth forest in conservation areas [see, for example, FEIS, p. D-20]. However, the 2008 Forest Plan directs the Forest to "[p]rovide the abundance and distribution of habitat necessary to maintain viable populations …" [2008 Plan, p. 4-89]. The record demonstrates that the viability of species was considered in light of the considerable science associated with the 1997 and 2008 Forest Plan decisions and recent science regarding individual species, as displayed in the FEIS and planning record.

See my response to Issue TM 3, below, for additional discussion on the Responsible Official's decision to allow young-growth harvest in OGRs, RMAs, and the beach and estuary fringe, and whether it is reasonable and supported by the record. As stated in that response, there appear to be several inconsistencies between the language in the Draft ROD [p. 5, paragraph 3], the language in the Amended Plan [pp. 5-5 to 5-8 for S-YG-Beach-01, S-YG-KC-02, S-YG-RIP-01 and S-YG-Wild-01], and the language in the FEIS [p. 2-34, paragraph 1, and p. 3-344, paragraph 5] regarding the amount of young-growth harvest allowed in those areas that I am directing the Responsible Official to clarify and correct.

Issue WLF 5: Objectors contend the Forest Service violated NFMA, NEPA, and the APA by ignoring and/or failing to adequately analyze and disclose credible scientific data/analysis, previous comments, new information, and opposing viewpoints relevant to the need to update the Tongass Conservation Strategy, and by not evaluating the integrity of the Conservation Strategy to determine if it is still functioning as intended. Specifically, objectors contend:

- Expert agency and scientific concerns regarding the integrity of the Conservation Strategy have been raised by the USFWS, State of Alaska, and Dr. Winston Smith, and these concerns were not adequately considered and disclosed.
- Earlier public comments raised concerns regarding the course-filter approach for the Conservation Strategy and its reliance on the quantity of productive old growth (POG) across the forest as an indicator of Conservation Strategy integrity, and the Forest Service did not adequately consider or respond to these comments. Objectors contend there is continued controversy over the adequacy of the old-growth reserve system, and that this coarse filter approach is not sufficiently protective of wildlife habitat needs and does not provide for wildlife viability, in violation of NFMA.

- Earlier public comments also asked the Forest Service to evaluate the fine-filter component of the Conservation Strategy, which they contend the Forest Service has also refused to do. They contend the Forest Service consistently interprets these fine-filter components as discretionary guidelines rather than substantive management provisions, resulting in the erosion of key habitat protections in favor of timber objectives. They further contend that by carrying the fine-filter approach forward without re-analysis, the Forest Service has violated NFMA and NEPA.
- The Forest Service has relied on the quantity of POG across the forest rather than the quality of that POG, and should have evaluated the composition of reserves, the juxtaposition of habitats, the functionality of corridors, and non-linearities in ecosystem responses to harvest activities.
- The Tongass five- year review and other new information included concerns regarding the adequacy of certain standards and guidelines for wildlife (such as deer and wolves) that were ignored in developing the purpose and need for the Amended Plan.
- The Forest Service has failed to cite any credible scientific information that the Conservation Strategy is working as intended, has failed to consider the considerable, credible information that the opposite is true, and has failed to adequately respond to public comments on this issue, in violation of NEPA and NFMA.
- The Conservation Strategy evaluation that was completed (FEIS, Appendix D) was incomplete and failed to provide adequate rationale for its conclusions. The Forest Service failed to explain how continued reliance on the 20-year old Conservation Strategy is supported by the best available science.

Objector(s): GSACC, et al. (Objection #0042)
Earthjustice, et al. (Objection #0039)

Response

As stated previously, the primary purpose of an EIS is to insure that the policies and goals of NEPA are integrated into the programs and actions of the federal government, and that there is fair discussion of significant environmental effects to inform decision makers and the public [40 CFR § 1502.1]. The CEQ regulations implementing NEPA indicate that "[EISs] shall be analytic rather than encyclopedic" [40 CFR § 1502.2(a)], and that "[a]gencies are encouraged to tier their [EISs] to eliminate repetitive discussions of the same issue and to focus on the actual issues ripe for decision at each level of the environmental review" [40 CFR § 1502.20]. Similarly, the APA requires that an agency examine the relevant data and articulate a satisfactory explanation for its actions, including a rational connection between the facts found and the choices made. CEQ directs agencies to reduce excessive paperwork [40 CFR § 1500.4], and to provide the information necessary to make a reasoned choice among alternatives [40 CFR § 1502.22 (a)].

In addition to disclosure under NEPA and compliance with the APA, objectors also raise NFMA concerns regarding the use of the best available scientific information and species conservation. The NFMA regulations complement and expand on NEPA regarding the use of science. "The responsible official shall use the best available scientific information to inform the

planning process" [36 CFR § 219.3]. NFMA also directs managers of NFS lands to "provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives." The Tongass Forest Plan was developed using the 1982 Planning Rule. While no obligations exist from the 1982 Rule as that Rule no longer exists [36 CFR § 219.17(c)], the 2008 Amended Forest Plan's explicit direction to "provide the abundance and distribution of habitat necessary to maintain viable populations of existing native and desirable introduced species well-distributed in the planning area" [2008 Plan, p. 4-89] remains and is not changed in the Amended Plan. Therefore, the mandate to provide for viable populations of species remains applicable to Tongass land management activities [see Amended Plan, p. 4-85].

The Plan Amendment FEIS (including appendices) and the planning record, in conjunction with the 1997 and 2008 FEIS's and planning records (and associated references), thoroughly discuss the critical components of the Tongass Conservation Strategy, the scientific basis for the Strategy, modifications to contributing elements of the Strategy proposed by each of the Plan Amendment alternatives, and the extent to which the Amended Plan would maintain the integrity of the Strategy and therefore meet the objective to conserve old-growth associated species. In accordance with NEPA [40 CFR § 1502.1], the FEIS presents a "fair discussion of significant environmental effects" of the alternatives to inform the decision maker and the public regarding the Conservation Strategy. Likewise, the Plan Amendment FEIS, the associated planning record, and the documents the FEIS tiers to demonstrate that the Forest carefully evaluated the conservation status of individual species in light of new scientific information, relevant to making a reasoned choice among alternatives. This is illustrated in the discussion below.

The Plan Amendment was narrow in scope. It retains the structure of the Tongass Conservation Strategy, developed for the 1997 Forest Plan and refined in the 2008 Forest Plan, and thereby tiers to the extensive scientific analyses, peer review, and conservation design work involved in both the 1997 Forest Plan [see 1997 FEIS, pp. 3-31 through 3-39, 3-351 through 3-360, and Appendix N] and the 2008 Forest Plan Amendment [2008 FEIS, Appendix D]. This is explicitly noted in the Draft ROD, which states "[t]his narrowly focused Tongass Forest Plan Amendment builds upon the work previously done to revise and amend the Forest Plan" [Draft ROD, pp. 32-33]. While a major revision of the Conservation Strategy was beyond the scope of the Plan Amendment, "[m]aintaining the integrity of the Old-growth Habitat Conservation Strategy was… a major consideration in alternative development" [Draft ROD, p. 8].

The science strategy for the Amended Plan built directly upon the earlier two Forest Plan decisions (1997 and 2008) in at least three ways, all of which resulted in careful consideration of the best available scientific information. First, the Forest conducted a careful review of the basic conservation literature to assess whether the conservation reserve science used to design the framework of the Conservation Strategy had changed since 2008. Second, the IDT considered design proposals from the TAC and input from other sources to determine whether the integrity of the Conservation Strategy and species viability was being maintained. Third, the IDT and other authors of the FEIS carefully deliberated on all of the information it received about the

Conservation Strategy and species viability, employing the science foundation from earlier planning efforts, recent literature on species relative to the Conservation Strategy, feedback from reviewers on the Conservation Strategy review [FEIS, Appendix D], and internal expert input. Each of these three elements is more thoroughly discussed below.

With regard to the review of conservation literature to assess whether the conservation reserve science used to design the framework of the Conservation Strategy had changed since 2008, in April 2015, Hayward, et al. reviewed the conservation literature relevant to the basic scientific foundation for the conservation reserve design of the Conservation Strategy that has been developed since 2008 and concluded that "[c]onsidering the framework for conservation reserve design…, development of the Tongass conservation strategy appears to have incorporated the ecological concepts and key elements important to meet its goals" [PR #769_00981, p. 7]. Three scientists with broad experience and recognized expertise in land management and conservation design reviewed the Hayward, et al. document, providing input on both the conclusion in that paper (the conservation science used to design the Conservation Strategy was still sound) and on the protocol outlined in Hayward, et al. for evaluating the integrity of the Conservation Strategy for the Tongass Plan Amendment [see PR #769_00982, PR #769_00983, and PR #769_00984]. None of the reviewers noted substantial developments in conservation science since 2008 that suggest that the basic design and analysis accomplished for the 1997 and 2008 decisions were flawed, and this absence of criticism regarding the basic structure of the Conservation Strategy is significant. While each reviewer provided suggested changes to the proposed approach to evaluating the integrity of the Conservation Strategy for the Plan Amendment, the suggested changes differed substantially among reviewers and there was no obvious consensus or suggested changes with broad support. All of the input from these three experts was carefully considered by the IDT, and informed the process used to evaluate whether the integrity of the Conservation Strategy was maintained under each of the Plan Amendment alternatives [see, for example, PR #769_01698 and PR #769_00246].

With regard to the IDT's consideration of design proposals from the TAC and others to determine whether the integrity of the Conservation Strategy was being maintained, the depth of the consideration given to the goal of maintaining the integrity of the Conservation Strategy and thereby preserving the habitat and ecological conditions necessary to maintain viable populations of old-growth associated species is demonstrated by the extensive deliberation of the TAC and the IDT's careful consideration of the proposals coming from the TAC in relation to the integrity of the Conservation Strategy [see, for example, PR #769_00965, PR # 769_00932]. The IDT's consideration and evaluation of the TAC alternatives employed the best available scientific information, as indicated by the references in the FEIS, Appendix D, the Draft ROD [pp. 8, 32-33], and the planning record.

Finally, the record demonstrates that the IDT carefully deliberated on all of the information it received about the Conservation Strategy and species viability, employing the science foundation from earlier planning efforts, recent literature on species relative to the Conservation Strategy, feedback from reviewers on the Conservation Strategy review that was conducted, and internal and external expert input. Appendix D of the FEIS "provides an overview of the rationale and assumptions used for evaluating proposed changes to the [2008 Forest Plan] in relation to the Tongass Old-growth Habitat Conservation Strategy…" [FEIS, p. D-1]. This appendix documents

a thorough and careful consideration of scientific information regarding the old-growth reserve system and species conservation in light of the Plan Amendment alternatives, and includes a focused discussion of relevant new science since 2008 [Id., pp. D-3 through D-5; see also PR #769_01292]. The comparison of alternatives in this appendix was based on metrics developed from consideration of science [see, for example, Appendix N to the 1997 Forest Plan FEIS, and pp. 3-31 through 3-39 and 3-351 through 3-360 of that FEIS]. The discussion of the Conservation Strategy and associated science in Appendix D includes 43 literature citations, with 36 of those references being science published in 2008 or afterwards. The referenced literature in this appendix also includes seven references to manuscripts by Dr. Winston Smith [FEIS, Appendix D, pp. D-24 thru D-25].

Objectors contend that the Forest's evaluation of the potential effects of the Amended Plan on the Conservation Strategy focused on the quantity of old-growth habitat and failed to consider habitat quality. As suggested, much of the evaluation did examine the spatial extent and distribution of old-growth habitat. However, this does not mean that habitat quality was not also considered. Beginning with the initial analyses for the 1997 Forest Plan, the consideration of differences in old-growth forest structure and composition has informed decisions based on potential differences in habitat quality. As one of many examples, the evaluation of forest management effects on wolves has consistently included the careful consideration of winter deer habitat conditions and differences in snow interception by old-growth forest in differing forest volume classes [see, for example, 1997 FEIS, pp. N-30 through N-33 and citations such as Hanley and Rose, 1987 on p. N-46]. In fact, the classification of old growth as productive old growth (POG) verses old growth that is non-POG represents a classification by habitat quality [see, for example, 1997 FEIS, pp. N-5, N-6 through N-10]. Classification of old growth was further refined for the 2008 Plan, using the size density model [2008 FEIS, pp. 3-142, 3-231 through 3-232]. "Using this [size density] model, POG is defined by seven old-growth types: SD67, SD5N, SD5S, SD5H, SD4N, SD4S, and SD4H" [2008 FEIS, p. B-29]. The use of the size density model to evaluate deer habitat is outlined on page B-31 of the 2008 FEIS, and represents another approach that considers habitat quality.

Objectors also contend that the Forest interprets species-specific standards and guidelines as discretionary rather than substantive management provisions, resulting in a failure to evaluate these components of the Conservation Strategy and the erosion of key habitat protections in favor of timber objectives. The record, however, demonstrates that the species-specific standards and guidelines and other plan components were carefully considered. For example, the consideration of land management effects on goshawks led to revision of plan components for the Amended Plan [pp. 4-95 through 4-96]. As disclosed in the FEIS [Appendix D, pp. D-4, D-19 through D-20], goshawk conservation in light of standards and guidelines was carefully considered. The record demonstrates that, in addition to strengthening the standards and guidelines for goshawk, a clear understanding of species ecology from the scientific literature (including Smith 2013) and other assessments was sought after and considered by the IDT with respect to the Conservation Strategy, conservation of species, and the characteristics of the alternatives considered for the Amended Plan [see, for example, PR #769_00932; PR #769_00024, pp. 9-14, 17; see also Attachments #B23, #B24 and FEIS, Appendix D, p. D-24]. This included consideration of the standards and guidelines [PR #769_01263, p. 14].

Similarly, the BE prepared for the Amended Plan states that "protection of old-growth by beach fringe, riparian, and other standards and guidelines would be greatest under Alternative 5, followed by 4, then 1, then 2, and least by 3" [PR #769_01263, p. 20; see also pp. 6, 18, 19].

Objectors further contend that the combined effects of the changes in standards and guidelines, along with the allowance of activities in beach buffers, riparian areas, and other important areas for key wildlife species including deer, wolves, goshawks, and flying squirrel, was not thoroughly considered. The record demonstrates otherwise. For example, the FEIS considers and discloses the differences between the alternatives considered for the Amended Plan in regard to the potential effects on wolves and deer, examining the current condition and the effects of the alternatives. This analysis employed, among other metrics, the interagency deer model, which considers habitat quality based on vegetation. It also evaluated the influence of roads on habitat quality [FEIS, pp. 2-43, 3-236, 3-269, 3-277, 3-311, 3-237 through 3-239, 3-252 through 3-257, 3-262 through 3-266, 3-269, 3-273 through 3-277, and Appendix D]. The analysis of the effects on wolves also considered the considerable science summarized in the recent USFWS decision not to list the wolf under the Endangered Species Act [see FEIS, pp. 3-237 through 3-238 and Appendix I, p. I-84].

The FEIS's analysis of the effects of the alternatives on the Queen Charlotte goshawk includes an evaluation of landscape pattern, connectivity, and quality of habitat [PR #769_01263; FEIS, pp. 3-195 through 3-200, 3-226 through 3-227, 3-258 through 3-260 and Appendix D]. The analysis also includes consideration of the results of the 2007 USFWS status review and conversations with USFWS regarding the proposed changes to management of goshawk habitats [see, for example, PR #769_00566; PR #769_01230].

The FEIS includes a similar analysis of the effects on flying squirrels [pp. 3-247 through 3-250, 3-284 through 3-285; Appendix D, pp. D-8, D-11; and Appendix I, p. I-29], including consideration of the recent USFWS 90-day finding on the Prince of Wales flying squirrel [77 Fed. Reg. 52301-52308; PR #769_01564].

I believe the citations in the FEIS and the modification of select standards and guidelines demonstrate a thorough review and consideration of current science for these species [see Appendix D, pp. D-24, D-25]. As discussed above, the record, including notes from IDT meetings, further demonstrates consideration of key species in light of scientific information [see, for example, PR #769_00024, PR #769_01292, and PR #769_00246].

Conclusion

I believe the Forest adequately considered and disclosed the status of the Conservation Strategy and the Amended Plan's effects on key species, including deer, wolves, goshawk, and flying squirrel. This analysis was sufficient to inform the public and the decision maker regarding a reasoned choice among alternatives within the narrow scope of the Plan Amendment.

Wolves

Issue WLF 6: Objectors contend the Forest Service violated NFMA and NEPA by failing to adequately consider and analyze the effects of the Amended Plan on wildlife viability, particularly Alexander Archipelago wolves and Sitka black-tailed deer on Prince of Wales Island (POW). Specifically, objectors contend the FEIS:

- Did not take a hard look at the ongoing decline and potential extirpation of the POW wolf;
- Did not adequately disclose the deer habitat capability necessary to support sustainable wolf populations and deer hunting;
- Did not adequately consider the best available science and the USFWS wolf status assessment;
- Did not adequately analyze road density-related effects on wolves; and
- Did not adequately consider and respond to earlier comments on this subject.

Objector(s): Earthjustice, et al. (Objection #0039)
Audubon (Objection #0041)
GSACC, et al. (Objection #0042)

Response

The FEIS discusses the ongoing interagency efforts to ascertain population status and trends for the Alexander Archipelago wolf, both throughout the planning area and specific to Game Management Unit (GMU) 2 and POW. This discussion includes a summary of the recent findings of the USFWS and additional wolf population information, stating:

> Approximately 38 percent of the range-wide population of Alexander Archipelago wolves inhabits Southeast Alaska, where population trends are largely unknown, except for the population on Prince of Wales Island and the surrounding islands (collectively GMU 2), which appeared to decline in abundance in the past 20 years. A portion of Prince of Wales Island was sampled and estimates expanded to the entire GMU 2 suggesting an apparent decline of potentially 75 percent. Uncertainty in the apparent decline is most effectively considered through 95 percent confidence intervals on the 1994 (CI=148-564) and 2014 (CI=50-159) estimates (USFWS 2015). However, because GMU 2 constitutes approximately four percent of the range of the Alexander Archipelago wolf and six percent of the range-wide population, negative population impacts in GMU 2 likely do not affect the range-wide population significantly (USFWS 2015). The majority (62 percent) of the Alexander Archipelago wolf population occurs in coastal British Columbia and is thought to be stable (USFWS 2015).

[FEIS, p. 3-237]. With consideration of the extensive literature review and the comprehensive range-wide viability assessment conducted by the USFWS, the Forest conducted a programmatic analysis of the potential effects of the Plan Amendment alternatives and associated actions on the wolf, its habitat, and Sitka black-tailed deer, its primary prey. The FEIS recognizes that prey species also include waterfowl, beaver, spawning salmon, marine mammals, moose, and elk, when available [FEIS, p. 3-238].

The FEIS analysis of the potential cumulative effects recognizes that the timber harvest and road-related effects on habitat fragmentation, as well as the effects of direct harvest from hunting and trapping, contribute to wolf mortality and population vulnerability. The consequences of these effects are evaluated later in the FEIS [pp. 3-273 through 3-277 and 3-293 through 3-294]. The FEIS concludes that "all of the Action Alternatives would be expected to be at least as likely as the 2008 Forest Plan to maintain a viable, well-distributed wolf population on the Tongass" [Id., p. 3-294].

The FEIS also discusses the potential effects on Sitka black-tailed deer and its habitats, beginning on page 3-230. This analysis summarizes the life history requirements for this species, including habitat use by season and the biological and climatic limitations of those habitats, as well as other limiting factors, including direct harvest.

With regard to the contention that the Forest did not adequately disclose the deer habitat capability necessary to support sustainable wolf populations and deer hunting, the FEIS and supporting planning record provide a summary of the existing, credible scientific evidence relevant to evaluating the reasonably foreseeable effects on deer, deer habitat, and wolves, and the analysis in the FEIS is based on theoretical approaches or research methods generally accepted in the scientific community: in this case, the interagency deer model.

In addition to using the interagency deer model, the Forest conducted additional analysis of the relative value of available deer forage across the Forest under different Plan Amendment alternatives using the Forage Resources Evaluation System for Habitat (FRESH) model developed by the USDA Forest Service, Pacific Northwest Research Station [Hanley et al. 2012; http://cervid.uaa.alaska.edu/deer/Home.aspx] in a desire to gain an even deeper understanding of deer habitat capability throughout the planning area [FEIS, pp. 3-231, 3-262 through 3-266]. These FRESH-modeled habitat assessments contributed to a finding that "[a]t the forest scale, all alternatives [maintain] 100 percent of existing habitat quality in 25 years and 99 percent of the existing deer habitat quality in 100 years" [Id., p. 3-263].

With regard to the contention that the Forest did not adequately consider the best available science and the USFWS wolf status assessment, I believe this is contradicted by the numerous times the assessment, its analyses, and its findings were incorporated into the wolf analysis and referenced in the FEIS [see, for example, pp. 3-237 and 238, 3-273, 3-287, and 3-294].

Objectors also contend that the Forest did not adequately consider and respond to earlier comments on this subject. The Response to Comments in Appendix I of the FEIS includes numerous responses to comments related to deer, deer habitat, and wolves [see, for example, FEIS, Appendix I, pp. I-43, I-83 through I-87, and I-189]. Based on my review of these responses, it appears that the Forest made considerable effort to be responsive to the comments it received, and several of the responses indicate that additional information was added to the FEIS and/or that updates or corrections were made to the information in the FEIS or Amended Plan. This is entirely consistent with the NEPA regulations at 40 CFR § 1503.4(a), particularly (a)(3) and (a)(4). The Response to Comments indicates that the Forest continues to seek out and respond to information on wolves and wolf management:

The FEIS has incorporated additional information related to the recent status assessment for the Alexander Archipelago Wolf (USFWS 2015).

Per Forest Plan WILD1.XIV.A.1, an interagency Wolf Technical Committee has been established and is reviewing information pertinent to wolf management. One objective is to develop recommendations for wolf and associated deer habitat management for Prince of Wales Island; findings and recommendations from their work is not yet available.

Conclusion

Based on the information and analysis in the FEIS, Appendix I, and additional information in the planning record, I believe the Forest provided a thorough and adequate analysis and discussion of wildlife viability, including the viability of the Alexander Archipelago wolf and Sitka black-tailed deer on Prince of Wales Island.

Deer

Issue WLF 7: Objectors contend the Forest Service violated NFMA, NEPA, and ANILCA by failing to adequately consider and disclose the effects of the Amended Plan on deer populations and habitat capability, including the predicted 14 percent reduction in wildlife analysis areas (WAAs) with at least 18 deer per square mile and its effect on deer, wolves, and subsistence hunting. Objectors further contend the Amended Plan's standards and guidelines for deer are not adequate and are likely to lead to unacceptable effects on deer population densities in areas where populations are already low. Objectors also contend the deer model used in the analysis had the following limitations, which affected the adequacy of the analysis in the EIS:

- It was overly-reliant on the biogeographic province and forest-wide scales, and did not adequately consider effects at the WAA scale;
- It did not adequately consider an "all lands" approach rather than a NFS-only approach, and therefore did not adequately consider the effects on species with home ranges that commonly use lands in all ownerships. This resulted in an analysis of the effects on these species that was artificial, irrelevant, and misleading; and
- It relied too heavily on percentage differences instead of absolute numbers/direct measures, which rendered the analysis of several topics misleading and unrepresentative of the actual effects.

Objectors also contend the FEIS did not adequately disclose the limitations of model, respond to earlier comments provided on this subject, or adequately review the wildlife standards and guidelines with respect to deer to ensure they were still valid. Objectors further contend that the Forest Service did not adequately analyze the cumulative effects on deer, wolves, and hunters.

Objector(s): GSACC, et al. (Objection #0042)
Earthjustice, et al. (Objection #0039)
Audubon (Objection #0041)
Trout Unlimited (Objection #0036)

Response

See my response to Issue SUB 1, below, for a full discussion of the potential effects of the project on the subsistence use of deer and other resources. As stated in that response, I believe the Forest adequately considered and disclosed the potential cumulative effects of timber harvest and associated activities on subsistence resources and uses. While an ANILCA, Section 810 evaluation and determination was not required for the Amended Plan, the Forest did complete a forest-wide analysis to facilitate future project-level planning and decision-making. Based on that analysis, the Responsible Official concluded that full implementation of the Amended Plan may result in a significant restriction on the subsistence use of deer due to the potential effects of projects on the abundance and distribution of deer and increased competition for deer by both rural and non-rural residents. However, because of lower anticipated rates of timber harvest and road construction, this possibility of a significant restriction is less than the possibility under the 2008 Forest Plan (existing condition). Forest-wide standards and guidelines and other forest plan components are expected to minimize the effects on subsistence resources. The potential site-specific effects on subsistence resources and uses will be further evaluated at the project level, and reasonable ways to minimize these effects will be analyzed and considered during project-level planning.

The Plan Amendment FEIS and supporting planning record provide a summary of the existing, credible scientific evidence relevant to evaluating the reasonably foreseeable effects of forest management activities on deer and deer habitat, and the analysis in the FEIS is based upon theoretical approaches or research methods generally accepted in the scientific community: in this case, the interagency deer model. The Forest also conducted additional analysis of the relative value of available deer forage under different alternatives using the FRESH model, in a desire to gain an even deeper understanding of deer habitat capability in the planning area [FEIS, pp. 3-231, 3-262 through 3-266].

The FEIS discusses the potential effects on Sitka black-tailed deer and its habitats, beginning on page 3-230. This analysis summarizes the life history requirements for this species, including habitat use by season and the biological and climatic limitations of those habitats, as well as other limiting factors, including direct harvest. As stated in the FEIS:

> For consistency with the 1997 Forest Plan revision FEIS and 2008 Forest Plan Amendment FEIS, the interagency deer habitat capability model was used to assess existing habitat capability within the planning area…

[FEIS, p. 3-230]. Appendix B of the FEIS provides a review of the assumptions and application used for the interagency deer model [FEIS, Appendix B, p. B-27, Modeling and Analysis]. This review highlighted the scope and scale of the analysis:

> Forest Plan standards and guidelines require the use of the most recent version of the interagency deer winter habitat capability model to assess impacts to deer habitat (WILD4.XIV.A.2; USDA Forest Service 2008a). The interagency deer model was used in the EIS to (1) evaluate changes in deer winter habitat capability under each alternative, and 2) estimate the number of WAAs across the Tongass that meet the 18 deer per square mile index under the wolf standards and guidelines under each alternative.

> The deer model was run for historic (1954) and current conditions, and to assess effects in 25 years (when harvested stands would reach the stem exclusion stage) and in 100 years (to encompass long term effects over the planning horizon). Changes in winter habitat capability under the alternatives were based on comparisons to existing conditions for the analysis of direct effects (NFS lands only). For the analysis of cumulative effects changes in deer habitat capability were compared to historic (1954) conditions, the point at which large-scale timber harvest began (NFS and non-NFS lands). Analyses were run at the WAA scale, as this is the land division used by the ADF&G for deer inventories and planning, and the biogeographic province scale.

The application and limitations of the FRESH model are also described [FEIS, p. B-28], highlighting the nutritional value of the modeled habitat as well as access to those forage resources based on estimated snow depth.

As mentioned above, the interagency deer model analyses were conducted at the WAA scale. The tables provided in the body of the FEIS summarize these results at the biogeographic province scale [see, for example, FEIS, Table 3.10-14]. The conclusions are discussed by GMU, and are based on further consideration of effects, stratified by wolf occurrence and deer densities [FEIS, p. B-28].

The biogeographic province scale is also the scale used to evaluate and display the major cover types [FEIS, p. 3-188, Table 3.9-2], the forest-wide distribution of young growth [Id., p. 3-194, Table 3.9-5], and the original and percent remaining POG [Id., p. 3-196, Table 3.9-6]. These values were used to assess habitat capability and compare the potential effects of the Plan Amendment alternatives for a number of species.

Model assumptions, based on recent direction provided by the Forest Service, include:

- For the direct and indirect effects analysis, deer habitat capability by WAA (including only NFS lands) was divided by the total square miles of NFS lands (all elevations included, but with acres above 1,500 feet elevation receiving a zero value) in the WAA.
- For the cumulative effects analysis, deer habitat capability from all land ownerships (NFS and non-NFS lands) was divided by the total square miles of all lands (all elevations included, but with habitats on non-NFS land and land above 1,500 feet elevation receiving a zero value) in the WAA.

[FEIS, p. 3-274]. For Sitka black-tailed deer, the modeled habitat assessments (based on the results of the FRESH model) contributed to a finding that "[a]t the forest scale, all alternatives [maintain] 100 percent of existing habitat quality in 25 years and 99 percent of the existing deer habitat quality in 100 years" [Id., p 3-263].

The FEIS indicates that although the harvest of old growth is likely to have negative effects on deer habitat, the vast majority of the harvest proposed under the alternatives for the Amended Plan is the harvest of young-growth stands that are currently in the stem exclusion stage of plant succession. Harvesting these stands would convert them to the stand initiation stage or open

them up to provide more light to forage, which is generally of much higher value to deer. As a result, the harvest under the alternatives would have both adverse and beneficial effects on deer habitat, depending on the stand [FEIS, p. 3-426].

The Response to Comments indicate that comments with regard to the use of models for young-growth inventories and estimating the effects of treatments in young-growth were considered and addressed [FEIS, Appendix I, pp. I-10, I-11, and I-80]. These responses again recognized:

> The interagency deer model does not have the capability of taking into account different types of young-growth treatments. Therefore, it is conservative in that it does not account for the benefits of young-growth management over time, including methods such as pruning that might extend the longevity of young-growth treatments. However, these benefits are described qualitatively in the discussion in the Wildlife section under Deer. A statement has been added to the final EIS disclosing that the forage in clearcuts is of lower nutritional quality than that of old-growth forest.

[Id., p. I-80]. The Forest also acknowledged and responded to comments regarding Amended Plan standards and guidelines for deer density, additional model results at the WAA scale, and using an all-lands approach [Id., p. I-81].

The FEIS, in Table 3.10-2, displays the expected habitat capability of the biogeographic provinces, and identifies the WAAs with a modeled density of at least 18 deer per square mile (using interagency deer habitat capability model outputs). The FEIS also indicates that "other factors (e.g., local knowledge of habitat conditions, inherent capability of the landscape, spatial extent of the analysis) are to be considered by the biologist, as well, rather than solely relying upon model outputs" [FEIS, p. 3-238].

Conclusion

Based on the information in the FEIS, Appendix I, and the planning record, I believe the Forest provided a thorough and adequate analysis and discussion of Sitka black-tailed deer populations and the potential cumulative effects on deer and deer habitat capability. The FEIS acknowledged the limitations of the habitat models, and the scale of the analyses was appropriate.

Goshawk

Issue WLF 8: Objectors contend the Forest Service violated NEPA and NFMA by failing to adequately consider the current vulnerability of goshawks on Prince of Wales Island and the potential adverse effects of the Amended Plan on this population, and by failing to ensure that goshawks remain viable and well-distributed throughout the planning area. Objectors further contend:

- Implementation of the Amended Plan will not provide adequate habitat to support a minimum number of reproducing individuals;
- The Forest failed to take a hard look at the effects of the Amended Plan on critical habitat components (nesting home range, nest area, and post-fledging family areas);

- The Forest failed to adequately consider the best available science, and failed to consider and respond to public comments on this issue;
- The Forest failed to adequately consider the uncertainties about the future effects of young-growth timber harvest on goshawks; and
- The cumulative effects analysis was inadequate and failed to consider the effects of high-grade harvesting in high-volume POG and the trend toward more intensive timber harvest in the southern and central Tongass, as outlined in recent project NEPA documents.

Objector(s): Earthjustice, et al. (Objection #0039)
GSACC, et al. (Objection #0042)

Response

The FEIS and supporting planning record are based on considerable science, expert and interagency reviews, and planning efforts, including:

- A substantial history built on research specific to goshawks in Southeast Alaska [see PR #769_01121, PR #769_01125];
- The 1997 Forest Plan and associated Tongass Conservation Strategy, which incorporated the results of these previous efforts;
- The USFWS Status Review of the Queen Charlotte goshawk [PR #769_00566];
- The 2008 Forest Plan, which modified and adapted the Tongass Conservation Strategy to include a multi-species, landscape level legacy standard;
- The 2009 Regional Forester's Sensitive Species list update and supporting literature review and assessment [PR #769_00347];
- The 2013 paper by Dr. Winston Smith titled "Spatially explicit analysis of contributions of a regional conservation strategy toward sustaining northern goshawk habitat" [PR #769_00612];
- Subsequent email and personal conversations with USFWS regarding proposed changes in management of goshawk habitats [PR #769_00788, PR #769_01230]; and
- Local and anecdotal information gathered by Forest Service wildlife biologists and other resource professionals.

This information was not only used in the analysis of the potential effects on the species and its habitats, such as in the BE for the Amended Plan [PR #769_01263], but it also provides meaningful criteria for the Responsible Official to consider in making land management decisions. For example, the information documenting goshawks nesting in young-growth forest stands was incorporated into the modified WILD4 standard and guideline. The previous standard and guideline read:

II. A.1. c) Nesting Habitat: Maintain an area of not less than 100 acres of productive old-growth forest (if it exists) generally centered over the nest tree or probable nest site to provide for prey handling areas, perches, roosts, alternate nests, hiding cover, and foraging opportunities for young goshawks.

As a result of the information documenting goshawks nesting in young growth, the standard and guidelines was changed to read:

> c) Nesting Habitat: Maintain an area of not less than 100 acres of productive old-growth (POG) forest if it exists, *or the largest diameter young-growth forest if sufficient POG is not adjacent to the nest*, generally centered over the nest tree or probable nest site to provide for prey handling areas, perches, roosts, alternate nests, hiding cover, and foraging opportunities for young goshawks.

[Amended Plan, p. 4-92]. Specific to goshawk habitat capability and population sustainability, the 2008 ROD [p. 22] documented how the 2008 Forest Plan considered the cumulative changes to the Tongass Conservation Strategy in analyzing the potential effects on goshawks. The Plan Amendment FEIS also considered those changes, and provides an overview of the life history and habitat associations required by goshawks in Southeast Alaska. The FEIS discusses the habitats used by goshawks for foraging and nesting, including POG, recognizing that nesting in mature young growth is less common and occurs in proportion to the amount of this habitat available on the landscape [FEIS, p. 3-226]. The FEIS states that "[t]he system of OGRs and other non-development LUDs also maintains habitat for this species," but acknowledges:

> [A] recent study suggests that some uncertainty remains with respect to the ability of Forest Plan conservation measures to contribute sufficient habitat to sustain well-distributed, viable populations of northern goshawks throughout Southeast Alaska (Smith 2013). Continued inventories and monitoring of established nest protection buffers will help to inform future decisions.

[FEIS, p. 3-227]. The BE reviewed Alternatives 1, 2, 3, 4, and 5, including the proposed change to the goshawk standards and guidelines which addresses nesting habitat, concluding that:

> When taken together with other past, present, and reasonably foreseeable activities and disturbances, all alternatives would have minor to moderate cumulative effects on goshawks, meaning that individuals would be affected. However, the cumulative effects would not compromise the integrity of the conservation strategy for the goshawk, nor affect the future viability of goshawks or cause a trend towards federal listing for the species. Effects of activities on goshawks will also be considered at project-specific levels, with opportunities to further reduce cumulative effects.

[BE, p. 23, PR #769_01263]. Other evaluations include the analysis of the Tongass Conservation Strategy [FEIS, Appendix D, p. D-5], which concluded that "the results of the analysis in this appendix indicate the conservation strategy currently functions as intended and is expected to function regardless of which alternative is selected."

Specific to the Prince of Wales subpopulation, the USFWS's 2007 Queen Charlotte Goshawk Status Review [PR #769_00566] evaluated taxonomy, distribution, habitat capability and availability by functional requirements, and prey distribution and abundance. This information was put in context of past, ongoing, and cumulative forest management actions on all lands, with consideration of the current land management guidance of the Tongass National Forest. The analysis and findings from this status review were considered for the Amended Plan.

Many of these same issues were brought up in comments on the DEIS. The Forest responded to these comments in Appendix I of the FEIS. In particular, the response to GOSH-1 provides a thorough response to the concerns expressed in those comments, and identifies the references that informed the response [pp. I-88, I-89].

Conclusion

Based on the information and analysis in the FEIS, Appendix I, and additional information in the planning record, I believe the Forest provided a thorough analysis and discussion of the current science, expert opinion, and public comment relating to the goshawk, including concerns about the current vulnerability of goshawks within the planning area, including Prince of Wales Island. The Forest's analysis of the potential effects of the Amended Plan on goshawks and their critical habitat components is adequate, and is supported by extensive information in the planning record (including the planning records for the 1997 and 2008 Forest Plan decisions).

Subsistence

Issue SUB 1: The objector contends the Amended Plan will result in a continued decline in viable populations of subsistence game. Specifically, the objector contends that grouse, wolf, deer, bear, and salmon populations have all declined as a result of the cumulative effects of timber harvest on NFS, State, and Native lands, and that this will continue with the implementation of the Amended Plan. Objector contends that these effects violate ANILCA.

Objector: Eric Lee (Objection #0043)

Response

Section 810(a) of ANILCA requires that, in determining whether to withdraw, reserve, lease, or otherwise permit the use, occupancy, or disposition of public lands under any provision of law authorizing such actions, the head of the Federal agency having primary jurisdiction over such lands or his designee shall evaluate the effects of such use, occupancy, or disposition on subsistence uses and needs, the availability of other lands for the purposes sought to be achieved, and other alternatives which would reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes. No such withdrawal, reservation, lease, permit, or other use, occupancy, or disposition of such lands which would significantly restrict subsistence uses shall be effected until the head of such Federal agency:

(1) gives notice to the appropriate State agency and the appropriate local committees and regional councils;

(2) gives notice of, and holds, a hearing in the vicinity of the area involved; and

(3) determines that:

(A) such a significant restriction of subsistence uses is necessary, consistent with sound management principles for the utilization of the public lands,

(B) the proposed activity will involve the minimal amount of public lands necessary to accomplish the purposes of such use, occupancy, or other disposition, and

> (C) reasonable steps will be taken to minimize adverse impacts upon subsistence uses and resources resulting from such actions.

It is important to note that an ANILCA, Section 810 evaluation and determination is not required for the approval of a forest plan or an amendment or revision to that forest plan, as a programmatic-level decision does not constitute a determination whether to "withdraw, reserve, lease, or otherwise permit the use, occupancy, or disposition" of NFS land. Those types of decisions are made at the project level, in accordance with NEPA and other required project-level procedures. However, as indicated in the Draft ROD for the Amended Plan, the Forest Service evaluated the potential direct, indirect, and cumulative effects on subsistence resources; held public hearings in several Southeast Alaska communities between the draft and final versions of the EIS for the Amendment; and included a forest-wide determination on the potential effects of the Amended Plan on subsistence uses to facilitate future project-level planning and decision-making [Draft ROD, p. 39; see also FEIS, p. 3-431].

The objector appears to be most concerned about the cumulative effects of timber harvest on NFS, State, and Native lands. The CEQ regulations implementing NEPA at 40 CFR § 1508.7 define "cumulative impact" as follows:

> "Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

In accordance with NEPA, the FEIS for the Amended Plan considers and discloses the potential direct, indirect, and cumulative effects on wildlife and fish species, including the Prince of Wales spruce grouse, Alexander Archipelago wolf, Sitka black-tailed deer, brown and black bear, and chinook, sockeye, coho, pink, and chum salmon [FEIS, pp. 3-103 to 3-141 and 3-221 to 3-296]. The FEIS also addresses the potential effects on subsistence hunting, fishing, trapping, and gathering activities [Id., pp. 3-417 to 3-431].

In regards to cumulative effects, the FEIS discusses the analysis areas considered for the various resources and uses of the Tongass National Forest. For wildlife and other terrestrial resources, the FEIS identifies the cumulative effects analysis area as follows:

> [A]ll of Southeast Alaska from Yakutat Bay southeast to the southeastern end of Alaska (approximately 21.6 million acres, including 4.8 million acres of non-NFS lands)… although some analyses will be based on the area within the Forest boundary, depending on the availability and quality of available information. The Southeast Alaska area includes all of Glacier Bay National Park and the State, Bureau of Land Management, and other lands in the vicinity of Haines and Skagway. Often, Wildlife Analysis Areas (WAAs) will be used to summarize information within these study areas. In addition, biogeographic provinces will be used to summarize cumulative effects information for wildlife and other terrestrial resources.

[FEIS, p. 3-3]. For most aquatic or watershed-related resources (including fish), the FEIS identifies the cumulative effects analysis area as "the area within the proclaimed Forest boundary (approximately 17.9 million acres, including 1.2 million acres of non-[NFS] lands)," and indicates that analyses "were generally conducted at the watershed scale" [Id.].

The FEIS indicates that the actions considered in analyzing the potential cumulative effects on the physical and biological resources of the forest included past, present, and future timber harvest and road construction on NFS lands; past, present, and future timber harvest on private, State and Native Corporation lands with the boundary of the Tongass National Forest; and various other projects, activities, or circumstances within or affecting the resources of the Tongass [pp. 3-4 to 3-5]. A complete list of the past, present, and reasonably foreseeable activities considered (including resources with overlapping effects) is provided in Appendix C of the FEIS.

The FEIS discusses the cumulative effects on wildlife [pp. 3-286 to 3-296], acknowledging that activities on all land ownerships have the potential to negatively affect wildlife through habitat conversion, fragmentation, and disturbance. These habitat disturbances would primarily be associated with continued old-growth harvest, and would potentially affect species for which this forest type is optimal habitat. However, these declines in old-growth habitat (and associated effects such as fragmentation) would be lessened to some extent through the transition to young-growth harvest on NFS lands under Alternatives 2, 3, 4, and 5. The cumulative effects on wildlife are anticipated to be the greatest under Alternative 1 (the No Action Alternative, which represents current management direction), as it includes the highest amount of POG timber harvest. This is followed by Alternatives 4, 5, 3, and 2, with habitat effects most evident in areas where timber harvest is concentrated. The FEIS indicates that after 100 years of Forest Plan implementation, the total POG remaining on all land ownerships in Southeast Alaska would be approximately 83 percent of the original (1954) total POG under any of the alternatives [FEIS, pp. 3-217 to 3-218, Table 3.9-16]. Species with limited dispersal capabilities (such as flying squirrels and spruce grouse, which are also endemic species) are likely to be more sensitive to habitat loss and fragmentation than species with greater dispersal capabilities (such as goshawks, wolves, and brown bears) [D'eon et al. 2002, PR #769_00526]. All of the alternatives have the potential to result in localized reductions in the intactness and effectiveness of habitat, but overall, all alternatives are expected to maintain viable and well-distributed wildlife populations across the Tongass. It is important to note that the potential cumulative effects of timber harvest, road building, and other actions will be further evaluated on a project-specific basis as activities are proposed, and the potential for adverse cumulative effects on wildlife resources within a given geographic area could be reduced or eliminated as part of project design and appropriate mitigation measures that are identified for those projects.

In regards to fish, the FEIS discusses the potential cumulative effects on fish and aquatic resources [pp. 3-137 to 3-141], concluding that there is little difference between the alternatives in regard to the risk that road density will increase to undesirable conditions at the watershed level. This is because the overall amount of new road remains low on the forest level, with higher road density areas (greater than 1 mile per square mile) ranging from about 19.6 to 20.2 percent among the alternatives for all lands combined. The cumulative effects associated with actual timber harvest are also not expected to differ significantly among the alternatives. As

stated above, the potential cumulative effects of timber harvest, road construction, and other actions will be further evaluated on a project-specific basis as specific projects are proposed, and the potential for adverse cumulative effects on fish resources within a given watershed could be reduced or eliminated [FEIS, p. 3-141].

The Forest considered and responded to public comments related to the subsistence analysis conducted for the Amended Plan. These comments included contentions that:

- The Forest Service should engage communities to identify and prioritize restoration projects that may enhance local subsistence opportunities;
- The analysis of the potential effects on the subsistence use of deer was arbitrary and masked the local effects on the abundance and distribution of subsistence resources;
- The Forest Service should have conducted a more thorough ANILCA, Section 810 analysis; and
- The Forest Service should include greater protections for subsistence uses and hunting in the Amended Plan, especially in areas already highly affected by past practices.

The Forest responded to these comments in Appendix I of the FEIS [p. I-100]. These responses acknowledge the potential forest-wide cumulative effects on subsistence resources, based on the programmatic analysis that was conducted for the Amended Plan. As stated in these responses and elsewhere in the FEIS, the subsistence analyses that are conducted when specific projects are proposed allow for more site-specific information to be used in those analyses, such as information on the subsistence resources that occur in the project area and the level of use of those resources. This site-specific information is then considered when evaluating the effects on those resources and the use of those resources by subsistence and non-subsistence users. In addition, the subsistence hearings that are conducted at the project level provide opportunities for communities, tribal members, subsistence users, and others to speak specifically to the effects of the project on subsistence use and resources. If warranted, subsistence uses would be given preference over non-subsistence uses if any restrictions are deemed necessary.

With regard to prioritizing restoration treatments, the identification and analysis of forest restoration opportunities takes place at a scale smaller than the Forest Plan (forest-wide) level.

Conclusion

I believe the Forest adequately considered and disclosed the potential cumulative effects of timber harvest and associated activities on NFS, State, and Native Corporation lands on subsistence resources and uses, including grouse, wolf, deer, bear, and salmon populations. While an ANILCA, Section 810 evaluation and determination was not required for the Amended Plan, the Forest did complete a forest-wide analysis to facilitate future project-level planning and decision-making. Based on this analysis, the Responsible Official concluded that full implementation of the Amended Plan may result in a significant restriction on the subsistence use of deer due to the potential effects of projects on the abundance and distribution of deer and increased competition for deer by both rural and non-rural residents. However, because of lower anticipated rates of timber harvest and road construction, this possibility of a significant restriction is less than the possibility under the 2008 Forest Plan (existing condition). Forest-

wide standards and guidelines and other forest plan components are expected to minimize the effects on subsistence resources. The potential site-specific effects on subsistence resources and uses will be further evaluated at the project level, and reasonable ways to minimize these effects will be analyzed and considered during project-level planning.

Watershed Resources

Audubon/TNC Conservation Priority Areas and Tongass 77 Watersheds

Issue WATER 1: Objectors contend implementation of the Amended Plan and its proposed young-growth timber harvest in Audubon/TNC Conservation Priority Areas and Tongass 77 Watersheds will not adequately protect wild salmon populations and will result in disruption of the watershed approach to conservation on which these areas were originally established, violating NFMA.

Objector(s): Alaska Wilderness League (Objection #0032)
Audubon (Objection #0041)

Response

Chapter 3 of the FEIS summarizes the affected environment and the potential effects of the Amended Plan on water quality, water quantity, watershed conditions, and fish habitat [FEIS, pp. 3-51 to 3-88, 3-103 to 3-141].

The Tongass 77 Watersheds and Audubon/TNC Conservation Priority Areas have no special designation by the Forest Service. They are not identified as Wilderness, LUD II, or other specifically designated land use or management area. Rather, they are areas that were evaluated and identified as being important for fish and/or wildlife habitat [FEIS, p. 3-104]. Even though these areas have no special designation by the Forest Service, the TAC recommended these areas for certain considerations due to the recognition that the Tongass 77 Watersheds, along with watersheds in LUD II status, are the pillar of commercial, sport, and subsistence wild salmon harvest in the region and provide a large contribution to the Southeast Alaska economy [TAC final recommendations, Amended Plan, Appendix B; see also FEIS, Appendix I, p. I-56].

The Amended Plan is more protective than the 2008 Forest Plan for lands in the Tongass 77 Watersheds and the Audubon/TNC Conservation Priority Areas as it prohibits old-growth harvest in these areas [FEIS, p. 2-33]. The Amended Plan does, however, allow young-growth management in Development LUDs and in the Old-Growth Habitat LUD outside of IRAs identified in the 2001 Roadless Rule, including areas within the Tongass 77 Watersheds and Audubon/TNC Conservation Priority Areas. To ensure that this harvest is consistent with young-growth goals and desired conditions, the Amended Plan indicates that by the end of the five-year period after the Final ROD, young-growth harvest projects that intersect certain high value fish watersheds will be evaluated, in collaboration with stakeholders, to determine the effects on fish and wildlife habitat resulting from young-growth projects [Amended Plan, p. 5-4; see also TAC final recommendations, Amended Plan, Appendix B, p. 7].

The application of Best Management Practices (BMPs) [PR #769_00032 and FSH 2509.22], combined with other applicable standards and guidelines [see Chapters 4 and 5 of the Amended Plan], will minimize or prevent adverse effects on water quality, sedimentation, and other watershed factors from the ground-disturbing activities that may occur. The FEIS states, in part:

> Much of this EIS evaluation has been based on the conclusions, derived from scientific literature, monitoring reports, and expert evaluations, that 2008 Forest Plan standards and guidelines, practices, and related BMPs are adequate to ensure minimal or no harm to fish resources, at least for most of the alternatives considered. However, there is a degree of scientific uncertainty associated with these conclusions. The current Plan has only been in place for 20 years, although many of the practices have been in place longer. The active monitoring that has been occurring does not suggest marked problems with water quality or fish resources as a result of these actions.

[FEIS, p. 3-137]. The analysis described in the FEIS adequately considers the potential effects of the alternatives and provides sufficient information for a comparison of those alternatives. More specific analyses will be carried out at the project level as specific projects are proposed.

Conclusion

I believe the FEIS and planning record demonstrate the Forest adequately considered and disclosed the potential effects of the Amended Plan on the watershed and fisheries resources of the forest. This analysis included descriptions of the BMPs and standards and guidelines that have been in place since 2008, which are designed to minimize effects on water quality and salmon habitat, and therefore salmon populations. While the FEIS and other documents in the planning record acknowledge that there is some risk in implementing any ground disturbing projects, particularly road building, Forest Plan monitoring to date has not shown that projects conducted in adherence to the standards and guidelines and BMPs have resulted in long-term effects on the watershed or fisheries resources. I also believe the Amended Plan will adequately protect wild salmon populations and will not result in disruption of the watershed approach to conservation in these areas.

See my response to Issue NFMA 1, above, for discussion on the need for greater clarity regarding the long-term management of the Tongass 77 Watersheds and the Audubon/TNC Conservation Priority Areas.

Issue WATER 2: Objector contends implementation of the Amended Plan and its proposed young-growth timber harvest of lands in the beach and estuary fringe, RMAs, and Old-Growth Habitat LUD that are within the Tongass 77 Watersheds would not provide adequate watershed protections for these areas and would not be consistent with the goals and management objectives for each LUD, violating NFMA. Objector further contends that these areas are incredibly important for fish and wildlife habitat and landscape connectivity, and that timber harvest in these areas would have long-lasting and irreparable effects.

Objector(s): Trout Unlimited (Objection #0036)

Response

Young-growth harvest in the Old-Growth Habitat LUD, beach and estuary fringe, and RMAs outside of TTRA buffers will be allowed only during the first 15 years after approval of the Amended Plan, and created openings for commercial harvest (up to ten acres and a maximum removal of up to 35 percent of the acres of the original harvested stand) or commercial thinning will be allowed. In the beach and estuary fringe, a 200-foot, no-commercial harvest buffer adjacent to the shoreline will be required. Along lake shorelines, a 100-foot, no-cut commercial harvest buffer will be established. In sum, young-growth harvest is limited to small (ten acres or less) patch cutting or commercial thinning in the Old-Growth Habitat LUD, beach and estuary fringe, and RMAs outside of TTRA buffers [FEIS, p. 2-34]. The harvest of young-growth timber in the these areas is limited to a one-time only entry, unless the best available scientific information shows that additional entries are warranted and meet the LUD objectives [see, for example, Amended Plan, pp. 5-8, 5-10, 5-11].

Prior to any planned harvest in an RMA, a watershed analysis [as described in the Amended Plan, Appendix C] will be required. Treatments in RMAs must also achieve stream process group objectives [Amended Plan, Appendix D]. No harvest is allowed inside of TTRA buffers.

See my response to Issue WATER 1, above. As discussed in that response, water quality and fish habitat will still be protected by standards and guidelines and BMPs, including TTRA buffers on fish streams and RMA buffers on non-fish streams. The FEIS acknowledges the risk of not meeting desired future conditions for riparian areas [FEIS, pp. 3-79 and 3-137]. Specifically, the openings allowed in RMAs for the next 15 years present a risk of not meeting the desired future conditions for these areas, and presents a risk to water quality and fish habitat. However, the areas involved are small, and, as stated in the FEIS, "[i]t would be a rare circumstance that 10-acres openings in RMA would meet the desired future condition for the RMA outside of the TTRA buffer" [Appendix I, p. I-195]. The Amended Plan identifies the desired conditions for these areas, and includes a management approach that requires young-growth treatments in RMAs to meet the objectives of stream process groups as defined in Appendix D to the Amended Plan [Amended Plan, p. 5-10; see also FEIS, p. I-195]. These are plan components that young-growth projects must comply with. Therefore, if any ten-acre opening proposed in an RMA does not meet the desired future condition or stream process group objectives for the RMA, the opening will not be authorized. In addition, the Amended Plan includes another management approach for the beach and estuary fringe, requiring the Forest to "consider spatial and temporal conditions of adjacent landscapes" [Id.]. This management approach is repeated for riparian areas [Id., p. 10].

Conclusion

In my opinion, the Amended Plan will provide adequate watershed protections for lands in the beach and estuary fringe, RMAs, and Old-Growth Habitat LUD within the Tongass 77 Watersheds, and the management activities allowed under the Plan will be consistent with the goals and management objectives for each respective LUD area.

Inadequate Analysis

Issue WATER 3: Objectors contend the Forest Service did not adequately analyze the direct, indirect, and cumulative effects of the Amended Plan on watershed resources. Specifically, objectors contend:

- The EIS failed to include essential information related to watershed health and effects of logging, including data on stream miles, channel type, stream class, and watershed condition;
- The Forest Service response to comments on this issue was inadequate, and the EIS failed to explain these gaps in information and failed to explain whether the information was essential to the decision;
- These omissions resulted in conclusions about effects on watershed health that are misleading and significantly under-represented, violating NEPA;
- Stating that watershed effects will be addressed during project development or that project-level stream surveys will be completed does not remedy the problem of a misleading effects analysis in the Plan Amendment EIS;
- The analysis of various watershed components, such as hydrologic connectivity between roads and streams, sedimentation, frequency of road-crossing work, increased use of roads, headwater streams, increased peak flow, increased stream temperature, loss of woody debris, and fish passage, was inadequate, and these factors are further complicated by the proposal to harvest young growth in previously-protected riparian areas; and
- The EIS concluded that effects are temporary or short-term, which conflicts with available scientific information regarding the persistence and magnitude of such effects.

Objector(s): GSACC, et al. (Objection #0042)

Response

The Amended Plan does not identify the specific locations where activities might take place. Rather, it identifies the activities that may occur in designated areas (LUDs) and sets forth, in detail, the standards and guidelines and other plan components that must be applied to those activities. Specific activities and projects will be planned to implement the direction in the Amended Plan, and site-specific environmental analyses will be performed on most of these projects and activities prior to implementation [Amended Plan, pp. 1-1 to 1-2].

The Water and Fish sections of Chapter 3 of the FEIS address watershed health, condition, and other factors considered in analyzing the Amended Plan's effects on fisheries and aquatic habitat. The Water section identifies how many miles of streams, the stream classes, and the channel types that were analyzed. This section acknowledges that there are streams not identified or mapped at this time [FEIS, p. 3-52]. The FEIS explicitly states that Class IV streams are substantially underestimated in the Tongass National Forest stream dataset, as these streams are typically only located during site-specific project analysis. Therefore, the effects on these streams are best analyzed during the project-specific planning stages of proposed timber activities [FEIS, p. 3- 72]. However, there are factors that can be considered at the programmatic level to estimate the effects on water and fisheries resources and to provide a comparison of

those effects between the alternatives considered. For example, the Water section of the FEIS expressly indicates that the alternatives are ranked for potential sediment effects on streams based on the number of new crossings, as discussed in the Fish section [FEIS, p. 3-76].

The FEIS describes the Watershed Condition Framework (WCF) used to classify watershed conditions following a national, comprehensive approach that uses available data from NFS lands to 1) evaluate the condition of watersheds; 2) strategically implement integrated restoration; and 3) track and monitor outcome-based program accomplishments [FEIS, p. 3-60]. The FEIS then clearly indicates that the potential effects of changes in water quantity and quality, and thereby watershed condition, in a particular subwatershed can only be estimated during project planning, at which point the rate of entry into subwatersheds and the locations of proposed harvest units, roads, and/or other development activities would be analyzed. The actual effects on watershed condition can only be determined by site-specific monitoring as projects are implemented [FEIS, pp. 3-69, 3-71, 3-73, 3-76, and 3-81].

The FEIS states:

> Based on best available science, it can be concluded that there is a relatively low long-term risk to fish habitat from any alternative because of low levels of timber harvest and road construction and reconstruction, and the relatively high riparian protections offered by Forest Plan standards and guidelines for most alternatives. However, the allowance of harvest in previously protected beach/estuarine fringe and or RMA areas increase risk to resources where the harvest in these areas occur under Alternatives 2 through 5.

[FEIS, p. 3-137]. As discussed above, the application of BMPs, combined with appropriate standards and guidelines and other plan components [see Chapters 4 and 5 of the Amended Plan], will minimize or prevent adverse effects on water quality, sedimentation, and other effects on watersheds from the ground-disturbing activities that may occur. The FEIS states, "[t]he active monitoring that has been occurring does not suggest marked problems with water quality or fish resources as a result of these actions" [p. 3-137].

Conclusion

I believe the FEIS and planning record demonstrate that the Forest adequately considered the potential effects of the Amended Plan and the other alternatives on the watershed and fisheries resources of the forest. While the FEIS and other documents in the planning record acknowledge that there is some risk in implementing any ground disturbing projects, particularly road building, Forest Plan monitoring to date has not shown that projects conducted in adherence to the BMPs, standards and guidelines, and other protective measures have resulted in long term effects on the watershed or fisheries resources.

I do believe the FEIS could have better described the relationship between the missing stream data and the decision to be made at this time. Therefore, I am directing the Responsible Official to include language in the Final ROD that better acknowledges the gaps in information, yet clarifies that the water and watershed effects analyses in the FEIS considered the general relationship among and between the alternatives and that adding any additional stream data would not change the order of those relationships. That is, the relative order (ranking) of the different alternatives with regard to their effects on streams and watersheds would be the same.

Climate Change

Insufficient Analysis, Carbon Sequestration and Storage

Issue CC 1: Objectors contend the Forest failed to properly analyze the direct, indirect, and cumulative effects of climate change by not following the CEQ's *Draft Guidelines for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews* (2014). Objectors further contend the agency only provided a cursory evaluation of climate change, violating the "hard look" requirements of NEPA.

Objector(s): GEOS Institute (Objection #0010)
GSACC, et al. (Objection #0042)

Response

Objectors contend that the Forest Service failed to consider or follow CEQ's 2014 *Draft Guidelines for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews*. As evidenced by the numerous Response to Comments in the FEIS that reference these *Draft Guidelines*, it is clear that the *Draft Guidelines* were reviewed and considered in the climate change analyses completed for the Amended Plan. It is also clear that the Forest made considerable effort to respond to the comments it received from the public related to the analysis, including revising parts of the analysis and updating and adding additional documentation and citations [see FEIS, Appendix I, pp. I-126 through I-138].

Current Forest Service policy regarding analyzing climate change in forest planning efforts is found in *Climate Change Considerations in Land Management Plan Revisions* (January 2010) [Attachment #B9]. Excerpts from that document include:

- The focus of NFS land management is multiple use management with ecological, social, and economic sustainability. Climate change is a factor to be considered in the delivery of our overall mission.
- Use the best available science on climate change that is relevant to the planning unit and the issues being considered in planning.
- Where necessary to make informed decisions and provide planning direction responsive to changing climate, use climate change science and projections of change in temperature and precipitation patterns at the lowest geographic level (national, broad, mid-, base) that is scientifically defensible. Given the uncertainty involved and limits to modeling capability, this is most likely at much broader scales than appropriate for the planning unit. Include a **basic analysis** of conditions and trends of carbon stocks and fluxes on the planning unit, and greenhouse gas emissions influenced by the management of the planning unit. More information on consistent methods to do this analysis will be provided in the future (emphasis added).

The guidance also states that "[t]here will also be some discussion of climate change in the effects section of the EIS, in the plan itself and the plan approval document" [Id.].

The *Guidance for Climate Change Considerations in Project Level NEPA Analysis* [January 13, 2000, Attachment #B10] contains additional guidance for consideration of climate change pertinent to environmental effects:

- It is not necessary to calculate GHG emissions for most projects; however, in situations where the responsible official finds the information useful for decisionmaking, such data and conclusions developed through quantitative analysis would normally only be used for comparing alternatives related to direct effects or addressing any applicable regulatory requirements related to GHG emissions. Without enough scientific understanding to draw conclusions about the significance of the quantitative results, qualitative discussions about the potential for greenhouse gases sequestered and emitted are more appropriate for disclosing climate change implications [p. 5].
- Qualitative effects disclosure for a project's impacts on GHG emissions and carbon sequestration should be couched in the ecosystem's role in the carbon cycle. In this context, descriptions of qualitative impacts should disclose the nature and direction (short-term and long-term) of the impact as opposed to the specific magnitude of the impact [pp. 5-6].

On August 1, 2016, CEQ published its *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews*. Excerpts from this guidance state:

- Recommends that agencies use projected GHG emissions (to include, where applicable, carbon sequestration implications associated with the proposed agency action) as a proxy for assessing potential climate change effects when preparing a NEPA analysis for a proposed agency action [p. 4].
- Inherent in NEPA and the CEQ Regulations is a "rule of reason" that allows agencies to determine, based on their expertise and experience, how to consider an environmental effect and prepare an analysis based on the available information. The usefulness of that information to the decision-making process and the public, and the extent of the anticipated environmental consequences are important factors to consider when applying that "rule of reason" [pp. 5-7].
- This guidance recommends that agencies quantify a proposed agency action's projected direct and indirect GHG emissions. Agencies should be guided by the principle that the extent of the analysis should be commensurate with the quantity of projected GHG emissions and take into account available data and GHG quantification tools that are suitable for and commensurate with the proposed agency action. The rule of reason and the concept of proportionality caution against providing an in-depth analysis of emissions regardless of the insignificance of the quantity of GHG emissions that would be caused by the proposed agency action [p. 12].

- Agencies should use the analytical scope that best informs their decisionmaking …for the purposes of NEPA, the analysis of the effects of GHG emissions is essentially a cumulative effects analysis that is subsumed within the general analysis and discussion of climate change impacts. Therefore, direct and indirect effects analysis for GHG emissions will adequately address the cumulative impacts for climate change from the proposed action and its alternatives and a separate cumulative effects analysis for GHG emissions is not needed [p. 14].
- CEQ does not expect agencies to apply this guidance to concluded NEPA reviews and actions… Agencies should consider applying this guidance to projects in the EIS or EA preparation stage if this would inform the consideration of differences between alternatives or address comments raised through the public comment process with sufficient scientific basis that suggest the environmental analysis would be incomplete without application of the guidance, and the additional time and resources needed would be proportionate to the value of the information included [pp. 33-34].

Consistent with applicable policy, the Amended Plan's effects related to climate change were considered and disclosed in the FEIS [pp. 3-11 through 3-26]. See my responses to Issues CC 2 and CC 3, below, for a full discussion about the adequacy of that analysis.

Conclusion

CEQ's *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews* does not apply to "concluded NEPA reviews and actions for which a final EIS or EA has been issued" [p. 34], which is clearly the case with the Tongass Plan Amendment. Even though the Amended Plan does not have to comply with the guidance objectors referenced, it should be noted that much of the intent of the CEQ guidance was followed in the analysis included in the Plan Amendment FEIS and record, consistent with applicable direction at the time of the analysis. The Responsible Official has latitude in determining the analytical scope of the FEIS, and that is clear in the guidance provided by CEQ.

Issue CC 2: Objectors contend the Forest Service failed to properly analyze the direct, indirect, and cumulative effects of climate change, including anthropogenic contributions to climate change. Specifically, objectors contend the agency did not properly recognize the important role the Tongass National Forest plays with respect to carbon storage in the United States, and the implications its management may have on climate change nationally and globally, violating NEPA and the multiple use objectives of NFMA. Specifically, objectors contend:

- The Tongass' carbon stock accounts for eight percent of the total carbon stored in the United States' forests and the Tongass stores more carbon than any other forest, and the Forest Service should have considered this in the analysis;
- The Tongass' old growth forests sequester and store carbon and are actively mitigating harmful effects of anthropogenic climate change, and the Forest Service should have considered this in the analysis; and

- The Forest Service should have identified climate change as a significant issue in the Plan Amendment EIS and used it as an important frame of reference, with established analysis thresholds and comparison tools for each alternative analyzed in the EIS.

Objector(s): Earthjustice, et al. (Objection #0039)
GEOS Institute (Objection #0010)
GSACC, et al. (Objection #0042)

Response

The CEQ regulations implementing NEPA at 40 CFR § 1502.16 provide guidance on what must be considered in an EIS, and this includes an analysis of the direct and indirect effects of agency actions. However, as stated at 40 CFR § 1500.1(b), "NEPA documents must concentrate on the issues that are **truly significant to the action in question**, rather than amassing needless detail" (emphasis added).

As discussed above in response to Issue CC 1, CEQ's guidelines clearly indicate that agencies continue to have considerable discretion in how they tailor their NEPA processes, and that they should apply the philosophies of "proportionality" and "rule of reason" to determine the extent to which a particular analysis or approach to evaluation is useful to the public and to the decision-making process for distinguishing between alternatives.

The Plan Amendment FEIS discusses the role of the coastal temperate forest in Southeast Alaska, in context with other coastal forests, and the role of the Tongass in relation to global climate and carbon cycles. It acknowledges that "a critical ecosystem service sustained by this forest is carbon sequestration…this makes the Tongass a critical component in the global carbon cycle" [FEIS, p. 3-13]. In support of this discussion, the FEIS cites a variety of scientific information [Id., pp. 3-13 through 3-16]. The FEIS indicates the estimated amount of carbon stored just above-ground on the Tongass, and discusses this in context with the estimated carbon stored in the rest of the forests of the United States, as well as the amounts of carbon stored world-wide, specifically noting that the carbon stored on the Tongass makes up about eight percent of the carbon currently stored in the forests of the United States [Id., p. 3-15]. The FEIS goes on to discuss the estimated amount of stored carbon that has been lost on the Tongass since timber harvest began in the early 20th century (0.2 to 0.6 percent), and compares this to carbon emissions elsewhere in the United States. The FEIS notes that "[e]ach of the alternatives would cumulatively add to the global effects of climate change by contributing to the net release of carbon to the atmosphere." However, the FEIS [p. 3-24] also notes that:

> [T]he goal of the proposed amendment is to reduce the total old-growth harvest that could occur, and as a result, each of the Action Alternatives… would have lower cumulative effects on carbon emission levels compared to the 2008 Forest Plan.

Objectors cite the 2007 Intergovernmental Panel on Climate Change (IPCC) report, and discuss it as if it is a mandate for how forests are to be managed. The two degrees Celsius temperature rise noted in the IPCC report does not mean that forests should not be managed for multiple use purposes. In fact, the report states:

> In the long term, a sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual sustained yield of timber, fibre, or energy from the forest, will generate the largest sustained mitigation benefit.

[PR #769_01002, p. 543]

As stated in the FEIS, "[a] qualitative evaluation of the differences among alternatives provides the most certain and reliable illustration of potential differences between alternatives." The FEIS discusses the different factors that contribute to sources of quantitative error, concluding that the level of uncertainty does not provide a meaningful evaluation of the relative differences between alternatives [FEIS, p. 3-21]. As a result, the analysis focuses on both a qualitative approach and different, but more meaningful, quantitative measures that serve as useful proxies: the number of acres harvested, miles of road built, etc., which provides a more transparent, tractable evaluation of the relative differences between the alternatives considered [Id., pp. 3-21 and 3-22]. This information is articulated in more detail in the Response to Comments [Appendix I, pp. I-135 through I-137], but the bottom line is that the "relatively small differences among the alternatives in carbon sequestration (particularly in the medium and long term)…would not inform the decision" [ID., p. I-135]. In other words, the FEIS concluded that additional quantitative climate and carbon information was not considered "important," "significant," or "essential" to a reasoned choice among alternatives. I agree.

Conclusion

In my opinion, the Forest adequately analyzed the climate change effects associated with the Amended Plan, and the approach the Forest followed in conducting this analysis is reasonable and consistent with law, regulation, and policy.

Issue CC 3: Objectors contend the Forest Service failed to properly analyze, in a quantifiable way and using the best available science, the direct, indirect, and cumulative effects of harvest activities on climate change, including the increased concentrations of carbon dioxide in the atmosphere and lost carbon storage, violating NEPA and NFMA. Specifically, objectors contend:

- The Forest Service did not use the appropriate timescale for the analysis and did not make the appropriate connections between timescale and carbon fluxes, carbon storage, carbon emissions, and carbon sequestration in the analysis of the alternatives;
- The Forest Service did not adequately consider the social costs of carbon, the interaction between climate change and decomposition rates, the differences in resilience to climate change between young-growth and old-growth forests, and the effects of timber harvest (emissions, carbon storage, carbon fluxes, and carbon sequestration changes);
- The Forest Service did not adequately review or respond to expert opinions regarding climate change and the extensive body of literature on the subject;
- The Forest Service did not identify the methodology used to support its conclusions or disclose the policy and scientific points of view that support its position that the climate change effects from action alternatives are complex and fraught with uncertainty; and

- The Forest Service did not adequately analyze the effects of climate change on key components of fish, wildlife, watershed, and vegetation resources.

Objector(s): Earthjustice, et al. (Objection #0039)
GSACC, et al. (Objection #0042)

Response

The 2012 Planning Rule at 36 CFR § 219.3 states:

> The responsible official shall use the best available scientific information to inform the planning process required by this subpart. In doing so, the responsible official shall determine what information is the most accurate, reliable, and relevant to the issues being considered. The responsible official shall document how the best available scientific information was used to inform the assessment, the plan decision, and the monitoring program as required in §§ 219.6(a)(3) and 219.14(a)(4). Such documentation must: Identify what information was determined to be the best available scientific information, explain the basis for that determination, and explain how the information was applied to the issues considered.

When there is incomplete or unavailable information related to reasonable foreseeable effects, the CEQ regulations implementing NEPA at 40 CFR § 1502.22(b) state that the EIS shall include:

> … (3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment, and (4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community.

The Plan Amendment FEIS discusses climate change in the Climate and Air section [pp. 3-11 through 3-26], and the information in this section is considered, as appropriate, in the resource-specific analyses elsewhere in the FEIS. With regard to objectors' contention that the Forest Service did not consider the appropriate timescale in its analysis of the Amended Plan's effects on climate change, the FEIS discusses climate change timeframes [pp. 3-16 and 3-20]. One reference cited in this discussion (DellaSala, 2014) suggests that "a young regenerating forest would remain a net carbon emitter for up to 50 years [PR #769_00989]. Another study (Janisch and Harmon, 2002) suggests it could take 200 years [PR #769_00155, page 1]. Based on the information reviewed, the FEIS concludes:

> It appears that harvesting options proposed in the five alternatives considered would likely result in a net release of carbon in the short to medium timeframe (i.e. within the first 50 years following harvest), and could remain a net contributor to carbon emissions for more than 200 years."

I believe the information in the FEIS about relevant timeframes is supported by the record and reflects current science.

With regard to whether the Forest Service considered the social costs of carbon, the CEQ regulations implementing NEPA at 40 CFR § 1502.16 require agencies to consider the potential direct and indirect effects of proposed activities, and their significance, on the environment. In its consideration of these effects, however, the Forest Service is not required to include an economic analysis of all of the effects. In fact, "the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations" [40 CFR § 1502.23].

Objectors contend the Forest Service did not consider the interaction between climate change and decomposition rates. The FEIS addresses the potential for accelerated decomposition rates, stating that "D'Amore has indicated that the organic layers in the soil profile of mineral soils as well as organic soils in general on the Tongass National Forest would likely experience increased decomposition rates if average temperatures were to increase," and acknowledging that this could "result in the release of portions of the carbon currently stored…In addition, the clearing of forested areas during past and ongoing harvesting activities can increase this effect, by increasing the amount of solar energy that is allowed to reach the ground…" [p. 3-14].

The FEIS states that "mature forests on the Tongass National Forest likely store considerably more carbon compared to younger forests" [p. 3-14]. The FEIS also notes that "we can infer that the past harvests and management of the Forest has likely resulted in a net release of carbon to the atmosphere due in part to the practice of harvesting old-growth timber" [p. 3-16]. The FEIS also discusses the potential effects of increased temperature in conjunction with timber harvest on soil layers [Id.].

In its discussion of the potential cumulative effects, the FEIS states:

> Each of the alternatives would cumulatively add to the global effects of climate change by contributing to the net release of carbon to the atmosphere; however, the goal of the proposed amendment is to reduce the total old-growth harvest that could occur, and, as a result, each of the Action Alternatives … would have lower cumulative effects to carbon emission levels compared to the 2008 Forest Plan (i.e., Alternative 1). Stated more directly, based on the extent of old-growth harvest, Alternative 1 would result in the lowest potential for carbon storage followed by Alternatives 4, 5, 2, and 3.

[FEIS, p. 3-24]. The objectors also contend the FEIS includes a flawed comparison of carbon storage in the soils of mature Tongass forests to storage in other forests nationally, and that it fails to account for forest floor and soil carbon stores. In addition, they question whether the 70 tons per acre figure in the FEIS refers to old-growth, second-growth, or to an average taken across the entire forest, and contend that the FEIS's reference to Smith et al. [p. 3-14] neglects to acknowledge that these references were to the hemlock-Sitka spruce forests in the Pacific Northwest, based on data from Oregon and Washington.

A review of Smith, et al, indicates that the objectors are correct and that Smith, et al.'s information about carbon is from the Pacific Northwest and not the Tongass. The 70 tons of carbon per acre cited in the FEIS appears to be based on a different reference [Barrett 2014, PR #769_00126] that states, "[t]he estimated above-ground average carbon density in the forest was 70 tons per acre in live trees, snags, and logs in 9.7 million acres of forest." Despite this

error in the references cited, the information disclosed in the FEIS is still accurate: the cool conditions of the Tongass slow the rate of carbon decay when compared to other regions, enabling more carbon to be stored in the soil. This is evident in several figures from *Baseline Estimates of Carbon Stocks in Forests and Harvested Wood Products for National Forest System Units – Alaska Region* that not only show soil carbon, but also several other forms of carbon [March 2015, PR #769_00999, pp. 29-35]. The information in this document is listed by region, and displays a numerical range of forest floor and soil organic carbon. In addition, the FEIS includes information about carbon flux in live trees, snags, and logs for managed and unmanaged forests [p. 3-15].

The role of old-growth forests in carbon sequestration is discussed in the FEIS, as well as the timeframes estimated for when young growth is no longer a net carbon emitter, so I believe differential resilience is addressed.

In regard to soil protection measures, the FEIS does not state that soil protection measures will have a "significant" bearing on post-carbon flux, nor does it imply it will "offset" the purported "release of massive stores of carbon." The FEIS does disclose:

> [T]he projected increases in temperature as a result of climate change could result in the release of portions of the carbon currently stored in the Tongass National Forest's soil layers. In addition, the clearing of forested areas during past and ongoing harvesting activities can increase this effect, by increasing the amount of solar energy that is allowed to reach the ground while the forest regenerates following a harvest.

[FEIS, p. 3-14]. The FEIS also states that the standards and guidelines help to "protect" and "retain" soil, and that since the Tongass does not burn slash, more carbon is stored on the forest floor [Id., p. 3-22]. It also includes a discussion about soil and water standards and guidelines and how monitoring of soil disturbance during timber sales has determined that "all timber harvest units… are within the established Region 10 soil quality guidelines" [Id., pp. 3-38, 3-39]. The FEIS includes further discussion on the environmental effects and the monitoring that has occurred and will continue to occur [Id.]. While soil monitoring does not include monitoring the carbon content, it stands to reason that the more soil retained, the more carbon retained.

The recent scientific studies provided by the objectors were reviewed and considered by the Forest. The Response to Comment CARB-12 states that "[w]e appreciate the additional references mentioned and have considered them in our analysis and conclusions" [FEIS, Appendix I, p. I-129]. CARB-9 and CARB-4's responses note that "additional discussion and citations regarding the differential ability of old-growth forests to sequester carbon dioxide… have been added" [Id., p. I-128]. The objectors' contention is linked to their request to adopt a no-harvest alternative. As noted in the Response to Comments:

> Commenters suggest that only a no-logging scenario maintains carbon stores through time and while that may be true, an alternative designed to meet this scenario is outside the scope of the EIS. As an amendment, rather than a revision, the scope of options being considered does not include the potential for no timber harvest and therefore the consequences of such an alternative are not considered.

[Id., p. 135, also see FEIS, p. 2-6, Alternatives Eliminated from Detailed Discussion].

The objectors maintain that the carbon cycle is "simple." It is one thing to state that "[l]ogging old growth results in a net transfer of C02 to the atmosphere, exacerbating climate change" and that "conserving forests results in more carbon storage, mitigating climate change." It is altogether different to develop a meaningful measure of how the timber harvest allowed under the Amended Plan will influence climate change and carbon sequestration when all the different components of carbon are factored in. That is a much more complicated process, given that the plan has multiple use objectives and not just the preservation of old growth to mitigate climate change. The *Baseline Estimates of Carbon Stocks in Forests and Harvested Wood Products for National Forest System Units – Alaska Region* [March, 2015, PR #769_00999, p. 3] notes that "[m]anaging carbon in a forest is not the same as managing the forest for carbon. Carbon management is one part of sustainable land management." The FEIS further explains this in its discussion of utilization rates and lifespan of wood products, growth rates of young-growth stands, market leakage, the temporal scale, amount of solar energy reaching the forest floor, etc. Each one of these factors requires a set of assumptions and comes with its own uncertainties [FEIS, pp. 3-19 through 3-25].

The FEIS also states, "[g]enerally, the capacity of a forest system to sequester and store carbon depends on the location, age, and species composition of the forest (Birdsey et al. 1993; McKinley et al. 2011)" [p. 3-14], and:

> The net effect of a timber harvest and active forest management action (i.e., amount of carbon released versus the amount stored) would depend on how the harvested timber was used (e.g., if it was used for durable timber products, paper, pulp, or biomass fuels), what substitute materials are available for construction purposes (i.e., non-wood materials), the amount of carbon emitted during harvesting activities, the amount of carbon emitted via decomposition of on-site wood and organic soil matter losses, and the influence of the harvested wood on timber markets elsewhere (McKinley et al. 2011; Jonsson et al. 2012).

[p. 3-16]. In fact, two of the references provided by the objectors clearly indicate that understanding the carbon cycle in relation to climate change is not as simple as they make it. While noting that carbon sequestration should be a "more accentuated objective," Depro, et al. (2008) state that "[f]orest and carbon management, however, is much more subtle than simply determining how much to harvest." In a review of observed and simulated airborne fraction (AF) of CO2, Hansen, et al. (2008) state that the AF2 includes the sum of land use and fossil fuel emission in the denominator in defining airborne fraction; thus AF2 is not accurately known because of the large uncertainty in land use emissions [PR #769_01643].

More recent information from the Tongass by D'Amore, et al. states:

- There is still considerable uncertainty in the range of carbon accretion values among the stands in our analysis. Therefore, site specific projects will need an improved model that is able to better reflect local conditions to carbon flux values. Factors that influence the variability in forest productivity among the sites or the response to thinning were included as random effects, but not specifically as predictive variables. Possible interactions with temperature, geology, soil saturation, nutrients or other site-specific

> factors may play a role in site productivity. This uncertainty might be addressed by obtaining further information on the site factors that may influence the productivity of the plots such as soil, hydrology, or climate variables.
>
> - Frustratingly, the uncertainty in determining the response of an individual stand is high, which limits the usefulness of model predictions for site specific estimates of carbon stock, often needed to evaluate specific management scenarios. Our models are most appropriately applied across an entire population of stands for regional and national carbon assessments.

[Attachment #B11, *Carbon accretion in unthinned and thinned young‐growth forest stands of the Alaskan perhumid coastal temperate rainforest*, pp. 8-9]. Another reference, *Baseline Estimates of Carbon Stocks in Forests and Harvested Wood Products for National Forest System Units – Alaska Region,* states, "[t]here are always uncertainties when it comes to estimating forest carbon" [PR #769_00111, p. 8]. It also notes:

> The uncertainty of forest carbon stock change at the national-scale level often ranges between 20-30%, suggesting that uncertainty simulations at scales far smaller (e.g. individual national forests) than the Nation should greatly exceed 30% (e.g. >100% for individual pool in individual forests).

[Id., p. 12]. The planning record also contains information from the Intergovernmental Panel on Climate Change (IPCC), which states:

- No single metric can accurately compare all consequences of different emissions, and all have limitations and uncertainties [2014, Summary for Policymakers, p. 17].
- In the long term, sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks, while producing an annual yield of timber, fiber, or energy from the forest, will generate the largest sustained mitigation benefit [2007, PR #769_01002, p. 543].

In sum, the FEIS presents an accurate reflection of the uncertainty and complexity regarding carbon flux and forestry.

Finally, objectors contend that further NEPA analysis is needed in order to fully consider the cumulative effects of federal timber harvest and climate change on fish, wildlife, and vegetation resources. More specifically, they contend that the FEIS fails to provide an adequate analysis of climate change effects on the planning area and the interplay between the Plan Amendment alternatives and climate change in the analyses of direct, indirect and cumulative effects. They also contend that climate change alters the Tongass Conservation Strategy's ability to maintain the viability of endemic species.

The potential influence of climate change on both the environment and on species in the planning area is identified and discussed in the FEIS and in numerous documents in the record, as well as in the 2008 Forest Plan FEIS and ROD. The Plan Amendment FEIS describes a range of potential changes in ecosystems, indicating that climate change may result in ocean

acidification, increasing temperatures of the ocean and streams, changing precipitation rates and patterns, increasing glacier melt, altering ecosystem composition and structure, and altering species distributions, among other outcomes [FEIS, pp. 3-12 through 3-14]. The FEIS expands on these effects in relevant resource sections, and provides critical background information on the extreme variability in climate experienced in Southeast Alaska.

The FEIS acknowledges the local and global implications of climate change associated with the Tongass, indicating that consequences of climate change include "changes to subsistence and recreational resources, impacts to infrastructure and land use, changes to transportation routes and options, and potential impacts to public health as a result of climate change" [Id., p. 3-26]. The FEIS goes on to highlight programs that will continue to monitor conditions and "alert the Forest Service to trends that may affect the health of the Forest and the species that depend on it." These include the Forest Inventory and Analysis - Forest Health Monitoring (FIA-FHM) program, annual insect and disease surveys, and stream gauges.

The information on the potential climate change effects discussed in the FEIS [pp. 3-12 through 3-26] is expanded to address fish, wildlife, watershed, and vegetation resources in subsequent sections of the FEIS, in Appendix D (Evaluating Integrity of the Tongass Conservation Strategy), in Appendix I (Response to Comments), and in the planning record.

The Tongass National Forest is managing its lands and resources in a manner that accounts for climate change and other stressors to ensure resilient ecosystems with high ecological integrity. The differences among alternatives in factors contributing to this resilience (such as the extent, distribution, and connectivity of old-growth forest, particularly POG) are extremely small. As described in Appendix D of the FEIS, those elements of the Conservation Strategy that relate most directly to interactions with climate change are strengthened by all action alternatives. Appendix D states, "[u]nder the preferred alternative (Alternative 5) and the other action alternatives, 91 percent of the original POG forest is anticipated to remain in 100 years" [FEIS, Appendix D, p. D-20]. This compares to 84 percent expected under the 1997 Forest Plan. This increase in the extent of POG remaining on the forest results in reduced risk associated with climate change and other stressors, and provides a resilient ecosystem for plants and animals in the face of uncertainty [FEIS, p. 3-296].

Conclusion

I believe the analysis of the potential effects associated with climate change completed for the Amended Plan and disclosed in the FEIS, including the analysis of carbon storage and climate change associated with fish, wildlife, watersheds, and vegetation, is consistent with NEPA and national direction related to climate change considerations, appropriately tiers to the 2008 Forest Plan, and provides the necessary information for the Responsible Official to make a reasoned choice among alternatives.

Biomass

Issue CC 4: Objectors contend the Forest Service failed to adequately analyze and consider the effects that biomass energy production will have on other forest resources and on climate change, violating NEPA. Objectors further contend that using biomass for energy production (burning wood for fuel) results in adverse environmental effects that were not adequately considered or analyzed in the EIS. Specifically, objectors contend:

- The Forest Service did not adequately consider the direct, indirect, and cumulative adverse effects of biomass energy production on air quality, and the effects of this air pollution on human health (particularly children and at-risk adults) and climate change;
- The Forest Service did not adequately consider that encouraging biomass energy production will indirectly result in an increase in timber harvest, and this increase in timber harvest will have effects on other forest resources; and
- The Forest Service considered biomass a 'carbon neutral' fuel in the analysis, which is not consistent with the best available science.

Objector(s): Earthjustice, et al. (Objection #0039)
GSACC, et al. (Objection #0042)

Response

Biomass energy systems are produced in a wide array of configurations, with widely varying emission profiles. The location, engineering, and installation features of systems will result in very different exposures by different populations to potential emissions. While operations, maintenance, and fuel quality can greatly affect potential emissions, emissions-control equipment can reduce emissions and provide significant improvements. Installed systems must also comply with inconsistent and varying building and fire safety code requirements [see, for example, Attachment #B12, *Wood Chip Heating Guide*]. All of these factors and more are outside the Forest Service's control or ability to predict; thus, it would be impossible to quantify adverse health or safety effects due to air emissions resulting from the use of biomass energy, and attempting to conduct an exhaustive analysis of the above factors is outside the scope of the Plan Amendment. As stated in the Response to Comments section of the FEIS, while the wood fiber provided in timber sales is currently supporting and may continue to support existing biomass energy facilities, the Amended Plan itself does not authorize site-specific projects and conducting a comprehensive analysis of the effects of biomass energy production is not necessary for the Amended Plan [Appendix I, p. I-117].

This does not mean that the Forest Service has not and will not continue to consider the effects of harmful emissions, however. While the discussion is very brief, the FEIS acknowledges that wood products burned as part of biomass energy production rapidly release stored carbon into the atmosphere [p. 3-20]. The FEIS also acknowledges the effects on air quality that can result from burning wood, noting that these affects can be aesthetically displeasing and/or have potential health risks to both humans and the Forest [Id., p. 3-19]. As stated in the FEIS, enforcement of applicable regulations of the Environmental Protection Agency (EPA) and the Alaska Department of Environmental Conservation (ADEC) is expected to keep any adverse effects within air quality standards [Id.]. In the *Community Biomass Handbook*

[PR #769_00918], the Forest Service acknowledges the range of harmful emissions between older and newer biomass technology. *Characterization of particles from wood combustion with respect to health relevance and electrostatic precipitation* [Attachment #B13] indicates that modern, automatic operating biomass furnaces produce far fewer particles than old technology systems, and the cytotoxicity of those particles is lower than particulate matter emitted from diesel-based systems. In addition, *High-Efficiency and Low-Emissions Wood Heating* [Attachment #B14] documents technological advances over the past 25 years driving significant improvements in biomass combustion, leading to higher efficiencies and lower emissions.

Regarding the potential climate change effects associated with biomass energy as a means to displace fossil fuels, the science is far from settled. Different approaches to carbon accounting yield a range of answers, as illustrated in the *2014 National Climate Assessment* referred to in the EPA's comments on the DEIS for the Plan Amendment [PR #769_01569].

The assertion that the Forest considered biomass energy to be "carbon-neutral" in the FEIS is inaccurate. Carbon neutral infers that no net CO2 is generated by biomass energy. The Forest Service's position is that, over time, much of the carbon that is released by wood combustion will be reabsorbed in forest regrowth; however, as noted above, the science indicates a more nuanced interpretation of that dynamic. The *Community Biomass Handbook* states "[t]he net effect of using biomass rather than fossil fuels for thermal energy is fewer emissions and a reduction of your carbon footprint" [PR #769_00918, p. 61]. The Response to Comments section of the FEIS indicates that some commenters expressed concerns with the timeframe assumed for recapturing those emissions (50 years or more), stating that the timeframe was inadequate to respond to the urgency of increasing atmospheric CO2 emissions [see, for example, FEIS, Appendix I, pp. I-127 and I-128]. There is no well-established timeframe for achieving net CO2 reductions, but it can be confidently assumed that reducing CO2 will be a multi-decadal effort, displacing fossil fuels that add new CO2 to the ecosystem with biomass when warranted.

Objectors contend that biomass energy production will result in increased timber harvests due to the Forest Service's stated goal of displacing 30 percent of heating oil use in the planning area, but I don't believe this assumption is supported in the FEIS. Approximately 11 percent of facility heating currently comes from woody biomass [Attachment #B15, *Southeast Alaska Energy Demand*, JEDC 2013, p. 7]. Most of this biomass usage can be reasonably inferred to offset heating oil consumption rather than other forms of energy because of the close correlation between high biomass usage and high heating oil costs, even in those communities with low electricity prices. For example, in Metlakatla, where electricity rates are among the lowest in Southeast Alaska, biomass usage is estimated at 27 percent. The bulk of that consumption will be in the form of residential cordwood, given that commercial/institutional consumption of biomass represents a small portion of that usage.

Total heating oil usage in Southeast Alaska communities is estimated at 17.5 million gallons a year [Attachment #B15, *Southeast Alaska Energy Demand*, JEDC 2013, and Attachment #B16, *Southeast Alaska Energy Update and Profile*, McDowell Group 2016]. Disregarding the 11 percent of heating oil already displaced by biomass heating, an additional 30 percent displacement goal would be equal to approximately 5,250,000 gallons.

Conservatively, 35 percent of log volume is converted to mill residue (sawdust, chips, bark, and slab) during the milling process [FEIS, p. 3-20]. One thousand board feet of a typical mix of Tongass young and old growth will weigh approximately 8.0 green tons; therefore, 35 percent of that amount would equate to 2.8 green tons of mill residue. This indicates that 46 MMBF of annual harvest [Id., p. 2-9] would yield approximately 128,800 green tons of residue. One green ton of residues yields a thermal energy similar to 50 gallons of heating oil (5,700 mmbtu) [Attachment #B17, *FS Forest Products Lab Fuel Value Calculator*]. The resulting heating oil displacement available solely from mill residue is 6,440,000 gallons, equivalent to 36.8 percent of the region's heating oil usage. Mill residue is not the only feedstock for biomass, as it can also use non-merchantable timber, harvest residue such as tops and limbs, and materials resulting from thinning operations, which can often yield a substantial additional resource. I believe this demonstrates that ample residual biomass will be available under the Amended Plan to achieve an aspirational goal of 30 percent oil displacement without driving additional harvest of timber.

Conclusion

In my opinion, the analysis of the potential effects of biomass energy production was adequate, given the programmatic nature of the Plan Amendment FEIS. Without a site-specific proposal and information on the location, engineering, and installation features of a proposed system, it is difficult to quantify the potential adverse effects on the forest, climate change, or public health or safety. Nor would any such analysis be relevant to the programmatic decision being made at this time or affect the relevant ranking of alternatives considered for the Amended Plan. Should the Forest receive a specific proposal, the potential effects would be evaluated at that time, and any authorized project would have to be consistent with applicable EPA and ADEC regulations, which would keep any adverse effects within identified air quality standards.

Issue CC 5: Objectors contend the Forest Service arbitrarily and capriciously established an objective to encourage biomass energy without establishing the need for change, and in so doing, prioritized biomass energy development over other plan-level environmental protections, violating NFMA. Specifically, objectors contend the new Renewable Energy direction in Chapter 5 of the Amended Plan will take precedence over other forest-wide and individual LUD-specific management direction, and that it removes previous TUS LUD protections that applied to energy projects under the 2008 Forest Plan. Objectors contend these changes were not adequately justified, disclosed, or analyzed.

Objector(s): Earthjustice, et al. (Objection #0039)

Response

See my response to Issues CC 4 and CC 6 (regarding effects of biomass energy production), as well as my response to RE 1, below (regarding Forest Plan direction priority for renewable energy projects). The purpose and need for the Plan Amendment responds to concerns that were consistently expressed during the Five-Year Review of the 2008 Forest Plan regarding the impact of high fossil fuel prices; the adverse effect of high energy costs on economic diversification and sustainable economic development; and increasing climate change effects on the quality of life in Southeast Alaska. Based on those concerns, the Responsible Official concluded that changes to

the Forest Plan were needed to make the development of renewable energy resources more permissible, including considering access and utility corridors to stimulate economic development in Southeast Alaska communities and provide low carbon energy alternatives, thereby displacing the use of fossil fuel [FEIS, p. 1-9].

Protection of forest resources is a priority when considering any type of renewable energy development on NFS lands, and renewable energy resources must be "developed in a manner that would maintain and protect [NFS] lands" [Amended Plan, p. 5-12]. The Forest developed the Renewable Energy plan components, including the suitability of lands (SUIT-RE-01), to integrate social, economic, cultural, and ecological considerations. While Chapter 5 plan components take priority if there is a conflict with the management direction in Chapters 3 or 4 when a proposal for a renewable energy project is submitted, the suitability of NFS lands for renewable energy sites will be made on a case-by-case basis, in consideration of the LUD, ecological and social values, and benefit to Southeast Alaska communities [Id.]. Objective O-RE-01 identified for the Renewable Energy direction reiterates the importance of demonstrating that a project will provide benefit to Southeast Alaska communities [Id.]. Renewable energy projects must be designed to be consistent with the applicable plan direction in Chapter 5.

Conclusion

I believe the need to make the development of renewable energy resources more permissible to stimulate economic development in Southeast Alaska communities and provide low carbon energy alternatives is well articulated in the FEIS and planning record, and the effects of the Amended Plan with regard to the changes in the Renewable Energy direction were adequately considered and disclosed in the FEIS.

Issue CC 6: Objectors contend the Forest Service failed to distinguish between zero-emitting renewable energies and non-zero emitting (or dirty) renewable energies, such as biomass, and failed to fully explore zero-emitting renewable energies, violating NEPA. Specifically, objectors contend the Forest Service should have considered other alternatives that would redirect public investment into cleaner technologies, such as wind or solar power, or alternative heating options, such as thermal heat pumps. Objectors further contend the agency failed to disclose the following factors in the EIS:

- The cost and feasibility of a biomass conversion program, including conversion of federal buildings in Ketchikan; and
- The relationship between declining oil prices and biomass production, and the fact that heating with diesel is safer and produces less pollutants than wood combustion.

Objector(s): GSACC, et al. (Objection #0042)

Response

There is no universal definition of "renewable energy," and no requirement to distinguish between zero- or non-zero-emitting renewable energies. Within the context of the Plan Amendment FEIS and Amended Plan, references to biomass energy are consistent with the definitions established in the Plan, which define renewable energy as:

> Energy resources that are naturally replenishing but flow-limited. They are virtually inexhaustible in duration but limited in the amount of energy that is available per unit of time. Renewable energy resources include: biomass, hydro, geothermal, solar, wind, ocean thermal, wave action, and tidal action.

[Amended Plan, p. 7-49]. This definition is consistent with the Forest Service Strategic Energy Framework, approved by the Chief of the Forest Service in January 2011 [FEIS, Appendix I, p. I-117]. Biomass, identified as a renewable energy in the definition above, is also defined in the Amended Plan [p. 7-6], as follows:

> Organic matter available on a renewable basis; includes forest and mill residues, agricultural crops and wastes, wood and wood residues, animal wastes, livestock operation residues, aquatic plants, fast-growing trees and plants, and municipal waste and industrial residues; can be used to produce liquid transportation fuels, chemicals and other bioproducts, electric power, steam, and heat.

Whether a renewable energy source is "emitting" or "clean" is a subjective description, and falls outside the definitions established in the Amended Plan.

With regard to objectors' contention that the cost and feasibility of biomass conversion projects were not taken into account, the cost and feasibility of biomass conversion projects are outside the scope of the Plan Amendment FEIS. As stated in the Response to Comments:

> The Forest believes it is appropriate to maintain the goal as stated in the EIS and reiterates that it is not distinguishing between renewable energies. The EIS clearly states that successfully launched conversion projects provide useful learning opportunities as case studies, but future projects will need to continue to analyze the cost/benefit savings based on choosing the right technology for the local biomass fuel supply. Each project will need to weigh the cost of converting to biomass with the cost of other readily available energy sources.

[FEIS, Appendix I, p. I-133]. The objectors also contend that the safety of biomass conversion projects were not taken into account. This, too, is outside the scope of the Plan Amendment FEIS. All proposed renewable energy projects, including biomass projects, will need to adhere to relevant building, fire and safety codes. The primary role for adherence to health and safety codes is with the appropriate regulatory agencies.

The objectors contend that the feasibility of biomass conversion projects were not taken into account given the current price of heating oil. The goal of the programmatic Amended Plan is not to evaluate projects or technologies based on variable factors such as the current price of oil,

which is unpredictable and subject to sudden and wide price swings. Rather, each proposed renewable energy project will be evaluated on its own merits, based on the desired outcomes of the project. As stated in the FEIS [p. 1-14]:

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

Note that none of these factors are directly associated with the price of oil. See my response to Issue CC 4, above, for discussion of the emissions associated with biomass and how those compare to diesel emissions.

Conclusion

The Amended Plan defines both renewable energy and biomass, and those definitions were consistently applied in the Plan Amendment FEIS. The renewable energy definition provided in the Amended Plan is also consistent with the Forest Service Strategic Energy Framework, approved by the Chief of the Forest Service in January 2011. The Plan Amendment FEIS did not evaluate specific biomass projects; project-specific factors such as cost, feasibility, and safety are outside the scope of the Plan Amendment FEIS and will be addressed as specific projects are proposed.

Renewable Energy

Issue RE 1: Objectors contend the Forest Service failed to truly consider renewable energy development on the Tongass. Objectors further contend the new Renewable Energy direction lacks sufficient criteria to guide decisions on proposed renewable energy projects. Specifically, objectors contend:

- Chapter 5 of the Amended Plan states that the Renewable Energy standards and guidelines take precedence if there is a conflict with management direction in Chapters 3 or 4. However, it also specifies "consideration of the LUD," which suggests that Chapters 3 and 4 take precedence. This direction does not provide any meaningful criteria for the decision making process, and does not provide for a predictable, repeatable, and objective process for making decisions on renewable energy projects;
- The Roadless Rule will continue to impede renewable energy development as it prohibits new geothermal development and new roads for future hydropower development. Because of this, the Forest Service should have proposed amendments to the Roadless Rule to allow this renewable energy development;
- The Draft ROD and EIS fail to mention Southeast Conference Report #97-01 (prepared to provide for a Southeast Alaska-wide hydropower intertie) or Public Law 106-511 (Southeast Alaska Intertie Authorization Limit), both of which pre-date the Roadless Rule and were prepared to encourage and establish access to, and the development of, hydropower facilities in Southeast Alaska; and

- The Forest should adopt the Renewable Energy LUD proposed by Alaska Electric Power & Light and other utilities throughout Southeast Alaska.

Objector(s): Alaska Power & Telephone Company (Objection #0006)
Jim Clark & Frank Murkowski (Objection #0008)
Ketchikan Chamber of Commerce (Objection #0013)
Resource Development Council (Objection #0018)
City of Wrangell (Objection #0021)
Alaska Miners Association (Objection #0031)
First Things First Alaska Foundation (Objection #0009)
Hyak Mining (Objection #0020)
Ketchikan Gateway Borough (Objection #0050)

Response

Objectors contend the Forest Service failed to truly consider renewable energy development on the Tongass. The Five-Year Review identified a strong desire to improve the ability of proponents of renewable energy development projects such as hydropower, geothermal, and wave energy projects to obtain permits from the Forest Service. It also indicated that the 2008 Forest Plan direction regarding transportation and utility systems (TUS) and the TUS overlay LUD was overly complex, confusing, and difficult to implement, creating an impediment to the development of hydropower, other types of renewable energy, and transmission lines needed to connect communities to sources of electric power. Alleviating plan-related impediments to renewable energy projects was a key consideration to reduce the adverse effects of high energy costs on economic diversification and sustainable economic development in Southeast Alaska.

As stated in the FEIS, one of the purposes of the Plan Amendment was to "[e]stablish plan components (e.g. standards and guidelines) for… renewable energy development to guide future project decision-making" [FEIS, p. 1-8], and renewable energy was considered a significant issue for the Amendment [Id., p. 1-14]. The FEIS includes a section titled Renewable Energy [pp. 3-315 through 3-326]. This section discusses existing Forest Plan direction regarding the TUS overlay LUD, identifies the renewable energy resources and existing and proposed energy projects in Southeast Alaska, and discusses the effects of the Amended Plan, including the removal of the TUS LUD, on those resources and projects.

With regard to whether the new Renewable Energy direction includes sufficient criteria to guide decisions on proposed renewable energy projects, the priority of direction is spelled out in Chapter 1 of the Amended Plan [p. 1-5], which states:

> Should conflict or discrepancy between directions occur, the following priority will apply:
>
> 1. Higher-level direction (federal law and regulations);
> 2. Chapter 5 direction (plan components);
> 3. Chapter 3 direction (LUD standards and guidelines);
> 4. Chapter 4 direction (Forest-wide standards and guidelines).

Chapter 5 of the Amended Plan identifies the objectives for the Renewable Energy direction:

> [E]ncourage renewable energy production. Our participation in responding to renewable energy projects would be in the priority order of whether they lead to:
>
> 1. A decrease in the number of Southeast Alaska communities powered by diesel generators;
> 2. An increase in existing renewable energy capacity; or
> 3. An export of renewable energy resources without benefit to Southeast Alaska communities.

Chapter 2 of the Amended Plan discusses the over-arching desired conditions for the Forest and the forest-wide goals and objectives:

> All applicable elements of management direction presented in Chapters 3, 4, and 5 contribute to the maintenance or attainment of one or more Forest-wide desired conditions, goals, or objectives. The direction in Chapters 3, 4, and 5 does not foreclose the opportunity to maintain or achieve the desired conditions for the Forest and the Forest-wide goals and objectives.

[p. 2-1]. Furthermore, Chapter 6 addresses resolving inconsistencies:

> When a proposed project or activity would not be consistent with the applicable plan direction, the Responsible Official shall take, subject to valid existing rights, one of the following steps:
>
> 1. Modify the proposal to make it consistent with the approved plan direction;
> 2. Reject the proposal;
> 3. Amend the plan so that the proposal will be consistent with the plan. A plan amendment can be approved in the same decision document with a project. This amendment may apply only to the project or activity or to all future projects and activities.

As indicated in the excerpts above, the goal of the Amended Plan is to achieve the objectives of the plan components, while taking into account the overarching desired conditions, goals, and objectives for the Forest. The objectives of the Renewable Energy direction are clearly described in the Amended Plan [p. 5-9], and the plan components of the Renewable Energy direction in Chapter 5 are priority direction when considering how proposed projects relate to other plan direction. In as much as the LUDs adhere to forest-wide objectives, they help inform the assessment of any Renewable Energy project proposals, but will not be as prescriptive as they were in the 2008 Forest Plan. I believe the priority direction is clear, and there is no contradiction between the guidance given in Chapter 5 and Chapters 3 and 4.

Regarding the objectors' desire for a "predictable, repeatable, and objective process," the history of renewable energy projects on the Tongass has demonstrated that each project has proven highly unique regarding its interaction with forest-wide desired conditions, goals, and objectives given its location, scope, and scale. Each project must be evaluated individually, based on site specific conditions, which likely will not yield the level of predictability and repeatability that

the objectors envision. This emphasizes the need for project proponents to engage with the Forest Service as early in the project planning process as possible to identify any unique or complex aspects of the project that might be addressable at an early stage.

With regard to whether the Roadless Rule impedes renewable energy development, see my response to Issue ROAD 2, above, for a discussion on the implementation of the Roadless Rule on the Tongass National Forest. For renewable energy projects specifically, the Roadless Rule does not prohibit new geothermal development or the construction and maintenance of power lines or oil and gas transmission lines. It also does not prohibit new roads for future hydropower development. Since July 2014, the Alaska Region has provided the public a document titled *Frequently Asked Questions Regarding Inventoried Roadless Areas* (last updated in February 2016) in an effort to clear up continued misunderstandings about what activities are allowed in inventoried roadless areas in Alaska. This document is available to the public on the Alaska Region webpage at http://www.fs.usda.gov/Internet/Roadless_QA, and I am directing the Forest Supervisor to ensure that it is also in the planning record for the Amended Plan. It is frequently updated to ensure consistency with recent decisions by federal courts in the Roadless Rule litigation.

The *Frequently Asked Questions* directly responds to questions about mining (including the exploration and development of leasable materials and geothermal resources), power and transmission lines, and hydropower development [see Q9 through G11, pp. 6-7], noting that these activities are "not prohibited." It also addresses whether road construction for hydroelectric development may be authorized. As noted in the *Frequently Asked Questions*, the Federal Power Act grants the Federal Energy Regulatory Commission (FERC) the authority to issue and administer licenses for hydropower development [Id.]. While Section 4(e) of the Act gives the Forest Service the authority to impose mandatory conditions in the FERC license to ensure the adequate protection and utilization of the forest, these 4(e) conditions cannot usurp FERC's role in deciding whether to license a hydropower facility. In short, if FERC decides that a road is necessary for facility development, the Forest Service cannot impose a 4(e) condition prohibiting the road. The Roadless Rule at 36 CFR § 294.12(b)(3) provides that a road may be constructed or reconstructed in an inventoried roadless area if "[a] road is needed pursuant to reserved or outstanding rights, or as provided for by statute or treaty." The Federal Power Act is one such statute, and as the Alaska District Court's judgment in *Organized Village of Kake, et al. v. USDA, et al*. noted:

> Nothing in this judgment shall be construed to prohibit any person or entity from seeking, or the USDA from approving, otherwise lawful road construction, road reconstruction, or the cutting or removal of timber for hydroelectric development pursuant to the standards and procedures set forth in the Federal Power Act.

The FEIS includes a statement that "[p]rohibitions on road construction and timber removal in inventoried roadless areas are considered conditions necessary for the protection and use of NFS land and resources" [p. 3-319]. This statement is later clarified in a following paragraph that states:

> Section 4(e) can be used to mitigate the impacts of any project including the location and size of a dam, associated project works (pipelines, roads, and facilities), reasonable access, and mitigation measures. The Forest Service may develop conditions necessary to

> protect NFS lands and resources, such as limiting or prohibiting certain roads, preserving remote characteristics, defining the size of facilities, project operations… *so long as the conditions do not constitute a veto and thereby usurp FERC's role in deciding to license a hydropower facility.*

(emphasis added) [Id.]. As noted in the FEIS, hydropower is the main source of power generation in Southeast Alaska, and the FEIS discusses both existing and proposed projects. Of notable interest because it appears to directly relate to objectors' concerns, the Sweetheart Lake project [listed in Table 3.12b-3 on page 3-323 of the FEIS] is nearing FERC approval, and the Forest Service in the process of reviewing the project, which will include the construction of a short road segment through an inventoried roadless area.

With regard to Southeast Conference Report #97-01 (prepared to provide for a Southeast Alaska-wide hydropower intertie) and Section 601 of Public Law 106-511 (Southeast Alaska Intertie Authorization Limit), the Forest Service has reviewed the Kake-Petersburg Intertie project, prepared an EIS for the project, completed the pre-decisional review of the project under 36 CFR part 218, and is in the process of preparing the final ROD for the project. That intertie was identified in Southeast Conference Report #97-01 as part of the envisioned larger intertie system in Southeast Alaska. The Forest Service also participated in the development of the Southeast Integrated Resource Plan, which evaluated the larger proposed southeast intertie.

With regard to objectors' contention that the Forest should adopt the Renewable Energy LUD proposed by Alaska Electric Power & Light and other utilities throughout Southeast Alaska**,** the Forest considered and responded to this request in the Response to Comments section of the FEIS. The response indicated that while a renewable energy plan for the Tongass might be valuable, the Amended Plan provides overall strategic direction for management of the forest and encourages renewable energy development without compelling specific Forest Service actions or guaranteeing specific results [FEIS, Appendix I, pp. I-120, I-121]. I agree with this response.

Conclusion

Based on my review of the record, I believe the Forest adequately considered renewable energy development on the Tongass, and the new Renewable Energy direction includes sufficient criteria to guide decisions on proposed renewable energy projects. Although there appears to be continued misunderstandings about what type of activities the Roadless Rule does and doesn't allow with respect to renewable energy development, the Forest Service has provided information to the public regarding such matters since July 2014. I also believe that the Tongass adequately considered the Southeast Conference Report and Section 601 of Public Law 106-511, supporting an intertie system in Southeast Alaska. However, the Draft ROD does not mention the Report or the legislation, so I direct the Forest Supervisor to acknowledge these in the Final ROD and clarify their relationship to the Amended Plan.

I am also directing the Responsible Official to ensure that the most recent version of the *Frequently Asked Questions Regarding Inventoried Roadless Areas* is in the planning record for the Amended Plan. It is frequently updated to ensure consistency with recent decisions by federal courts in the Roadless Rule litigation.

Timber Management

Timber Inventory

Issue TM 1: Objectors contend the Amended Plan transitions out of old growth and into young growth without a sufficient inventory of young-growth timber to adequately determine if there is enough economic timber to provide for a sustainable industry. Specifically, objectors contend:

- The analysis in the Draft EIS regarding young-growth inventory was inadequate; and
- Federal funding to complete the required inventories and analyses remains uncertain, and there is no indication that there is a commitment to that funding.

Objector(s): George Woodbury (Objection #0012)
Alaska Forest Association/Southeast Conference (Objection #0027)
Sealaska Corporation (Objection #0029)

Response

Objectors raised the same concerns in their comments on the DEIS. The Forest's responses to those comments clearly articulate the Forest's long-running efforts to obtain sufficient young-growth stand data information, either through extensive stand exam efforts or in conjunction with PNW and the Forest Biometrics Research Institute [see, for example, FEIS, Appendix I, p. I-10, I-11]. Additionally, the Tongass obtained the Forest Protection and Planning Software (FPS) to serve as the primary growth and yield model to store, track, and grow the stand inventories over time. Though the FPS model is well tested, the Tongass invested in an additional, independent third-party review and subsequent additional calibration of the model by an independent consultant. Based on this review, the overall volume projections produced by FPS were determined to be within an acceptable range [Id.]. The Woodstock model (a forest management modeling system) has been used to model baseline data for long-term strategic planning to define the long-term, sustained yield from the available land base. The results produced by this model are sufficient for planning and analysis at the forest plan (programmatic) level.

Project-level planning will require additional, more site-specific inventory information in order to guide, design, and implement economical young-growth projects in the future. The Tongass, in conjunction with State and Private Forestry and the State of Alaska, has embarked on a significant Challenge Cost Share Agreement to inventory 35,000 acres of young growth 55 years old or older, 15,000 acres of 40 to 55 year-old young growth, and 20,000 acres of old growth for "bridge" timber sales. The goal is to complete the majority of this inventory work by the end of the 2017 field season, and the stand-level information obtained from this inventory will enhance project-level planning and implementation.

Objectors would like this inventory completed and analyzed before the Final ROD for the Amended Plan is signed. The Responsible Official heard that request in the comments on the DEIS, and I heard them again at the objection resolution meeting. As stated in the Draft ROD, the Responsible Official believed that postponing a decision on the Amended Plan to await stand-level inventory information is not necessary. I agree. The currently available information for young growth is of sufficient scope and depth to support the programmatic decisions made in

the Amended Plan [Draft ROD, p. 32]. Delaying the decision on the Amended Plan would not only delay the transition to young-growth harvest, it would also delay implementation of key provisions of the Plan that support renewable energy development. I do not believe those delays are necessary.

I also believe it is important to note that the TAC, which included timber industry representatives, did not recommend delay of the Amended Plan decision to wait for inventory information. Rather, the TAC's final recommendations state:

> To provide a more accurate prediction of available young growth during the transition, the TAC recommends a thorough analysis of young growth inventory at the stand level in the first three years of the transition.

[TAC final recommendations, Amended Plan, Appendix B, p. 13; see also Appendix B, Executive Summary, p. 3]. The TAC went on to state:

> At the end of five years from the ROD of this Plan Amendment, there will be more experience and knowledge because…
>
> - There will be five years of experience in planning young growth timber sales aligned with the TAC recommendations that will improve the understanding of actual project net-downs and allow for more accurate predictions of young growth harvest timing and flow; and
> - The improved inventory information will be available and integrated into the forecast of both the timing and volume of young growth during the remaining period of the transition and set a target timeline for old growth harvest to complete the transition.

Objectors contend that federal funding to complete the required inventory and analysis is uncertain. Certainly that can be a true statement, given that the Forest cannot control budget decisions of Congress. However, the Responsible Official has options within the routine budget process to either request supplemental funds or to re-assign priorities within normal allocations to complete the inventory. In my opinion, there is no reason to believe that the inventory work will not be completed as planned. See my response to Issue NEPA 1, above, for further discussion on the ongoing Forest Service investments that will provide more information that will guide project-specific planning as the Amended Plan is implemented.

Conclusion

Based on my review of the FEIS and planning record, I believe the stand exam and other data for young growth currently on hand, in conjunction with updated site index values, and when modeled through FPS, is sufficient for the purpose of long-term planning at the forest plan level. The ongoing inventory work will provide a rich data set from which sound estimates can be developed during project-level planning as the Amended Plan is implemented. The Tongass, in conjunction with State and Private Forestry and the State of Alaska, will continue work under the

Challenge Cost Share Agreement to complete the young-growth inventory. I am directing the Responsible Official to add a commitment to the Final ROD to produce a report that documents the results of the inventory work, and to make this report available to industry stakeholders and the public for review.

Harvest Methods

Issue TM 2: Objectors contend the purpose and need for the Plan Amendment is to end old-growth clearcut harvest, but the Amendment allows for the continued clearcutting of old-growth forests and there are no measures in place to eliminate old-growth clearcutting as a practice by the end of the transition period. Specifically, objectors contend:

- Old-growth clearcut harvest and the subsequent re-growth that enters a stem-exclusion phase provides little to no habitat value for wildlife species; and
- The Forest Service failed to consider plan components that reduce the scale and size of old-growth clearcuts, even though the 2012 Planning Rule requires the development of plan components that prevent irreversible damage to soil, slope, and watershed conditions and ensure protections for soil, watershed, fish, wildlife, recreation, and aesthetic resources.

Objector(s): Audubon (CARA #20, Objection #0041)
GSACC, et al. (CARA #25, Objection #0042) (see p. 62-79)
Defenders of Wildlife (CARA #21, Objection #0034)

Response

The 2012 Planning Rule guides the development, amendment, and revision of land management plans for units of the National Forest System. As stated in the Rule, "[p]lan amendments may be broad or narrow, depending on the need for change," and "the Responsible Official has the discretion to determine whether and how to amend the plan" [36 CFR § 219.13(a)].

The Responsible Official determined the need for the Plan Amendment based on the July 2013 direction from the Secretary of Agriculture [Memorandum #1044-009, PR #769_01367], which directed the Forest Service to "transition away from old-growth timber harvesting and towards a forest industry that utilizes second growth – or young growth – forests." The need to amend the Tongass Forest Plan was also based on the Five-Year Review of the Forest Plan, which concluded that "conditions on the land and demands of the public necessitate the Tongass National Forest to make changes to the Forest Plan" [FEIS, p. 1-9]. In response to the Secretary's Memorandum and to the Five-Year Review, the Responsible Official identified the purpose of the Plan Amendment as follows:

- Review lands within the plan area to determine the suitability for timber production, especially young-growth timber stands.
- Identify the projected timber sale quantity (PTSQ) and the sustained yield limit.
- Establish plan components for young-growth forest management and renewable energy development to guide future project decision-making.

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

[Id., p. 1-8]. It is important to note that the Secretary did not envision an immediate or complete end to old-growth harvest. His Memorandum states:

> To ensure a smooth transition, the Forest Service will continue to offer a supply of old growth timber while increasing the supply of young growth to provide industry in Alaska the opportunity to develop new markets, learn new skills, and acquire new equipment. The continuation of limited sales of old growth timber is essential to maintain the existing industry until young growth can efficiently be processed.

[PR #769_01367, p. 2]. The Memorandum expressly recognizes that a successful transition to young-growth forest management is dependent on retaining some industry expertise and infrastructure, and that "[s]uch an approach requires a reliable supply of economically viable timber, with the old growth component decreasing over time while the young growth component increases" [Id.]. Furthermore, the Memorandum indicates that the Forest Service "will also continue the Tongass National Forest's micro-sale program and the old growth small sale program that targets niche markets" [Id.].

The Amended Plan is consistent with the Secretary's Memorandum. The FEIS outlines how the transition to young-growth forest management will occur under the Amended Plan:

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

[FEIS, p. 2-34, discussing Alternative 5]. With regard to whether the Amended Plan allows clearcutting, the forest-wide standards and guidelines for timber [pp. 4-67 to 4-72] did not change as a result of the Amended Plan. Silvicultural prescriptions, such as clearcutting (even-aged management), are not decided at the forest plan level. Rather, the Amended Plan identifies the criteria to be considered when specific timber harvest projects are proposed [Id.].

With regard to whether clearcut-harvested stands provide habitat value for wildlife species, it is true that the "stem exclusion" phase affects habitat capability in harvested stands, especially if no intermediate treatments of the re-growth occurs [see, for example, FEIS, p. 3-263]. However, pre-commercial thinning is an intermediate silvicultural treatment that is used to meet a variety of multiple resource objectives. Pre-commercially thinning harvested areas not only promotes stand stability in young-growth stands, but it also increases stand growth and can disrupt or delay the stem exclusion stage of stand development. Thinning can increase the understory plant abundance and variety, providing forage for wildlife species [see, for example, FEIS, pp. 3-338,

3-339]. The Tongass has thinned approximately 214,000 acres of young growth, approximately 6,000 acres per year over the past 5 years, to meet wildlife, riparian, and timber stand improvement objectives. The current levels of pre-commercial thinning are expected to continue in terms of funding and ecological needs for the reasonably foreseeable future. The beneficial aspects of pre-commercial thinning for forage production for deer, especially, are well documented in the planning record [see PR #769_00917; PR #769_00911; PR #769_01358; PR #769_01363; PR #769_01376; PR #769_00547; and PR #769_00884].

With regard to whether the Forest considered plan components that reduce the scale and size of old-growth clearcuts and prevent irreversible damage to soil, watershed, fish, wildlife, recreation, and aesthetic resources, the forest-wide standards and guidelines for the size of openings that may be created did not change in the Amended Plan [Amended Plan, p. 4-69, TIM4. III]. As discussed above, the Amended Plan identifies the criteria to be considered when specific timber harvest projects are proposed [Id., pp. 4-67 through 4-70], specifically providing that, as part of the project-level NEPA process, the Forest should "[c]onsider silvicultural systems other than clearcutting to meet other resource objectives" [Id., p. 4-68]. The Amended Plan includes standards and guidelines and other plan components that will prevent irreversible damage to soil, slope, and watershed conditions and ensure protections for soil, watershed, fish, wildlife, recreation, and aesthetic resources. There is no reason to believe that these plan components will not be followed as both old- and young-growth timber harvest projects are planned and implemented.

Conclusion

The forest-wide standards and guidelines for timber that relate to silvicultural examination and prescription and timber sale preparation, including the criteria to be considered in determining the silvicultural prescription(s) and the size of harvest openings that will apply to any given project during project-level planning, did not change in the Amended Plan. The Amended Plan includes plan components that will protect other forest resources, and is consistent with the Secretary's Memorandum and the purpose and need for the amendment, as identified in the FEIS. It is also consistent with the applicable provisions of the 2012 Planning Rule.

Issue TM 3: Objectors contend the Amended Plan authorizes the harvest of second growth in places that should not have been logged in the first place, specifically the Old-Growth Habitat LUD, RMAs, and the beach and estuary fringe. Objectors further contend there is a lack of scientific information regarding the effects of second-growth harvest, making it highly experimental and uncertain, and the Draft ROD does not have a reasonable basis for its approval of young-growth harvest, in violation of the APA. Specifically, objectors contend:

- The Amended Plan includes components that authorize large-scale clearcutting of second-growth stands that are nearing the understory re-initiation structure and over time would develop old-growth characteristics. Allowing clearcutting of these stands significantly weakens critical Tongass Conservation Strategy components;
- The EIS ignored the significant uncertainties and risks associated with commercial thinning and patch clearcuts in protected areas, in violation of NEPA;

- The EIS did not adequately address the silvicultural and ecological uncertainty associated with clearcuts, gap cuts, thinning, or similar treatments, given the scientific controversy and extreme uncertainty about the associated effects on wildlife and forest structure and the effectiveness of the treatments;
- There is no evidence that pre-commercial thinning will result in faster tree growth and development of old-growth stand structure. The Tongass-wide young-growth study produced mixed results, and does not support the widespread adoption of commercial young-growth harvest as being compatible with restoration of old-growth habitat;
- The Forest Service failed to adequately consider the implications of the proposed young-growth harvest on the Tongass Conservation Strategy, especially since the proposed approach to second-growth harvest is controversial and experimental;
- The EIS ignored the ecological values of young-growth forest and its relation to old-growth stand development;
- The Amended Plan allows clearings up to 10 acres and commercial thinning within riparian areas. While the EIS concluded that there would only be minor or "localized" effects on the ability of a logged riparian area to still provide connectivity, support aquatic and terrestrial habitat, buffer habitats from human activity, and function as riparian habitat in the Tongass Conservation Strategy, the effects on riparian habitats and their function as part of the Conservation Strategy are the loss of movement and dispersal of wildlife, which is the opposite of a localized effect and does not demonstrate that the Conservation Strategy is intact in the Amended Plan;
- The EIS relied on the ability of young growth to provide economical timber volume, but this will likely conflict with the goals of improving habitat in these areas. For example, logging methods that favor timber sale economics will result in methods such as ground-based yarding being favored over more expensive skyline or downhill cable yarding, although ecologically, skyline or downhill cable yarding would clearly be better; and
- The Forest Service previously identified forests in the Old-Growth Habitat LUD, RMAs, and the beach and estuary fringe as unsuitable for timber production, and there is no reasonable basis for determining that conditions have changed in a way that now makes them suitable for harvest.

Objector(s): GSACC, et al. (Objection #0042)

Response

With regard to objectors' contentions about the young-growth harvest allowed in the Old-Growth Habitat LUD, RMAs, and the beach and estuary fringe, and whether the Plan Amendment FEIS adequately considered the effects of that harvest on wildlife and the Tongass Conservation Strategy, the scientific uncertainty regarding those effects, and the ecological values of young-growth forests (the contentions stated in the first through third and fifth through seventh bulleted items above), see my responses to Issues WLF 1, WLF 2, WLF 4, and WLF 5, above. I believe the Forest conducted a thorough and species-specific analysis of the potential effects of the proposed young-growth harvest authorized in the Amended Plan. The FEIS and planning record demonstrate that the Forest adequately evaluated and disclosed the status of the Tongass

Conservation Strategy, and the effects of the Amended Plan on that Conservation Strategy and on key species resulting from the harvest of young growth in suitable areas of the Old-Growth Habitat LUD, RMAs, and the beach and estuary fringe. Furthermore, the Forest considered new science relative to this analysis to the extent commensurate with the scope of the Amendment and the need to make a reasoned choice among alternatives. The planning record demonstrates that the viability of species was considered in light of the considerable science associated with the 1997 and 2008 Forest Plan decisions and recent science regarding individual species.

With regard to whether pre-commercial thinning will result in faster tree growth and development of old-growth stand structure and is otherwise compatible with old-growth habitat restoration, it is important to clarify that pre-commercial thinning treatments are not planned for the areas referenced (Old-Growth Habitat LUD, RMAs, and beach and estuary fringe), since potential treatment stands within these areas were harvested more than 30 years ago. These areas are thus beyond the age where pre-commercial thinning treatments would be applied as a silvicultural treatment to increase diameter growth (along with other structural characteristics) and reduce inter-stand tree competition. Instead, the young-growth harvest proposed in these areas is based on the TAC's "co-intent" recommendations, which identified opportunities to improve habitat conditions and long–term ecological function in young-growth stands while producing timber volume from those areas [as discussed below; see also my response to Issue TM 8].

It is also important to note that the Tongass-wide young-growth study was not designed to study old-growth habitat restoration. It was designed to study the effects of pre-commercial thinning and pruning on maintaining and extending wildlife forage in stands nearing the full stem exclusion stage, where sunlight reaching the forest floor is severely restricted, thus affecting surface vegetative growth used by wildlife (deer). It also studied the effects on wildlife movement resulting from increased surface slash left behind in pre-commercial thinning projects [PR #769_00911; PR #769_01358; PR #769_01363].

With regard to the ability of young growth to provide economical timber volume while still meeting the goals of improving habitat in these areas, as with the silvicultural prescriptions discussed above in response to Issue TIM 2, the logging system selected for any given stand or portion of stand is a project-level decision and will not be determined until specific areas are identified and proposed for treatment. Young-growth projects (including the selected logging systems) in suitable areas of the Old-Growth Habitat LUD, RMAs, or the beach and estuary fringe must be consistent with forest-wide standards and guidelines, other plan components, and best management practices.

Finally, with regard to objectors' contention that lands in the Old-Growth Habitat LUD, RMAs, and the beach and estuary fringe were considered unsuitable for timber production in the 2008 Forest Plan and there is no reasonable basis for determining that conditions have changed in a way that now makes them suitable for harvest, see my response to Issue TM 8, below. As stated in that response, the Amended Plan is based on the recommendations of the TAC. After considerable review of the 2008 Forest Plan, the TAC concluded that the Forest Service could not achieve a successful transition to young-growth within the parameters of the Secretary's Memorandum without changes to the Forest Plan. Recognizing that a different approach would be required, the TAC recommended employing a "co-intent" mandate in the Amended Plan to

improve habitat conditions and long–term ecological function in young-growth stands while producing timber volume from those areas [see final TAC recommendations, Amended Plan, Appendix B, Executive Summary and p. 4]. The TAC was quite purposeful and reasoned in its discussion of options to enhance the chances for a successful transition, and clearly stated it believed the transition could not occur without some young-growth harvest in 2008 Forest Plan non-suitable lands [Id.]. After careful consideration of the TAC's recommendations, the planning record, and the public comments that were received, the Responsible Official made a reasoned decision to select Alternative 5, which incorporated the TAC's recommendations. Plan components, including standards or guidelines, to guide young-growth harvest in these areas are included in the Amended Plan, and these plan components will ensure that the primary intent and objectives for the Old-Growth Habitat LUD, RMAs, and beach and estuary fringe areas will be maintained.

Conclusion

Based on my review of the FEIS, Draft ROD, TAC recommendations, and planning record, I believe the Responsible Official's decision to allow young-growth harvest in the Old-Growth Habitat LUD, RMAs, and the beach and estuary fringe is reasonable and supported by the record. I also believe that the Plan Amendment FEIS and other documents in the record adequately considered and disclosed the effects of that young-growth harvest.

While the planning record fully supports the Responsible Official's decision to allow young-growth harvest in the Old-Growth Habitat LUD, RMAs, and the beach and estuary fringe, there appear to be several inconsistencies between the language in the Draft ROD [p. 5, paragraph 3], the language in the Amended Plan [pp. 5-5 to 5-8, specifically S-YG-Beach-01, S-YG-KC-02, S-YG-RIP-01 and S-YG-Wild-01], and the language in the FEIS [p. 2-34, paragraph 1 and p. 3-344, paragraph 5] regarding the amount of harvest allowed in these areas. I am directing the Responsible Official to clarify and correct these inconsistencies.

Timeframe for Transition to Young Growth

Issue TM 4: Objectors contend the Draft ROD's premise and stated purpose and need that the timber industry on the Tongass National Forest can transition to young growth in 10-15 years under the constraints of the Amended Plan, NFMA, and TTRA (such as non-declining, even-flow requirements and harvest restrictions in special areas such as beach fringe and stream buffers) is untenable. Specifically, objectors contend:

- There is no profitable domestic or export market for young-growth;
- There is insufficient volume of young growth under these NFMA and TTRA constraints, and economically viable old-growth volume will be wasted;
- The level of investment needed from industry and Congress to make the transition viable is not achievable; and
- The conclusions that the net present value of the overall timber program is positive and that young growth alone will be profitable after 25 years is not supportable.

Objectors further contend the Draft ROD violates NEPA and APA by not adequately considering and disclosing reasonable consideration of the above factors; does not set out a five-year schedule of timber sales, as the 2008 Amended Forest Plan did, to demonstrate that the young growth can be economically harvested; and does not adequately explain how the high level of investment from industry and Congress necessary for the transition can be achieved.

Objector(s): Alaska Power & Telephone Company (Objection #0006)
Jim Clark & Frank Murkowski (Objection #0008)
Ketchikan Chamber of Commerce (Objection #0013)
Resource Development Council (Objection #0018)
City of Wrangell (Objection #0021)
Alaska Miners Association (Objection #0031)
First Things First Alaska Foundation (Objection #0009)
Hyak Mining (Objection #0020)
Ketchikan Gateway Borough (Objection #0050)
Alaska Forest Association (Objection #0027)

Response

The Responsible Official clearly recognizes the challenges of the transition with respect to market development, and tailored the Plan Amendment in line with the Secretary's Memorandum [PR #769_01367], which states, "USDA's goal is to effectuate this transition over the next 10 to 15 years, so that at the end of this period the vast majority of timber sold by the Tongass will be young growth." The Memorandum recognizes the need to "retain the expertise and infrastructure of the existing industry," indicating that they "are fundamental to both the young growth and restoration components of the future timber program, and to the economic vitality of the region" [Id., p. 2]. In response to this need, the Memorandum states:

> To ensure a smooth transition, the Forest Service will continue to offer a supply of old growth timber while increasing the supply of young growth to provide the industry in Alaska the opportunity to develop new markets, learn new skills and acquire new equipment.

[Id.]. With regard to whether there is a profitable domestic or export market for young-growth, the Tongass has recently sold, and the purchaser has successfully exported, one young-growth commercial thinning project: the Heceta Stewardship Contract, approximately 7.4 MMBF of young growth. The logging costs and values associated with this project have been collected and will be incorporated into the next appraisal update. While that project alone does not a market make, it has provided a window into the future, demonstrating that young-growth projects can be economically viable. The economic viability of planned young-growth projects is essential for the ultimate success of the transition, and the Amended Plan includes plan components that recognize the economic interests in young-growth management. For example, the Amended Plan includes objective O-YG-2 [Amended Plan, p. 5-3], which states:

> During the 15 years after plan approval, offer increasing annual volumes of economically viable young-growth timber. Old-growth timber harvest would gradually be reduced to an average of 5 [MMBF] annually, to support Southeast Alaska mills.

Economically viable young-growth timber is defined in a footnote and in the Glossary of the Amended Plan [p. 7-15] as:

> On the Tongass National Forest, the Two-Log Rule was developed to better predict when stands reach a condition where economic harvest opportunities may exist prior to stands reaching culmination of mean annual increment (CMAI) of growth. The Two-Log Rule implies at least half of the merchantable volume within a stand is comprised of trees with two or more logs. A "two-log" tree is defined as trees that are at least nine inches diameter at breast height, six inches in diameter at the small end and contains a minimum of two logs that are at least 34 feet long.

Providing economic timber sales in Southeast Alaska has always been a challenge, and is expected to remain so in the future [Draft ROD, p. 42]. The Forest Service will be mindful of all aspects of economic viability as future young-growth projects are developed, and will seek to respond to the forest-wide goals and objectives for the Timber resource, which state:

> Provide about three years supply of volume under contract to local mills and then establish NEPA-cleared volume to maintain flexibility and stability in the sale program.
>
> Review the timber sale program and work with the state and other partners to implement changes that will keep an "economic timber" perspective throughout the process and monitor the implementation of these reforms to ensure they are consistently employed across the Forest.

[Amended Plan, p. 2-5; see also objectives O-TIM-01 and O-TIM-02, p. 5-13].

With regard to whether there is sufficient volume of young growth, I believe the FEIS and planning record acknowledge that the current supply of economically viable young-growth timber is insufficient, on its own, to support a full and immediate transition. As previously stated above in response to Issue TM 1, the Secretary's Memorandum and the Amended Plan provide for continued old-growth bridge timber to be offered during the transition period, which will be crucial to maintaining the existing industry infrastructure while additional, economical young-growth volume is prepared and offered.

The TAC's analysis revealed that the current Forest Plan would most likely not achieve the transition to young growth within the 10-15 year timeframe set out in their Charter. Recognizing that a different approach would be required, the TAC recommended employing a "co-intent" mandate in the Amended Plan to both improve habitat conditions and long-term ecological function in young-growth stands and produce timber volume from those areas. The TAC concluded that "[t]his will enable the Forest to move out of old growth as quickly as possible and accelerate the transition while sustaining an economically viable timber industry" [see final TAC recommendations, Amended Plan, Appendix B, Executive Summary and p. 4; see also Draft ROD, p. 32, and my response to Issue TM 8, above].

The Woodstock model [FEIS, Appendix B] appropriately accounts for treatment restrictions on the available young-growth stands during the modeling runs. While the Woodstock model offers significant improvement over previous modeling efforts, it does retain some of the limitations of the previous models [Id.]. The main purpose of modeling is to aid planners in estimating the

likely future consequences of management decisions. While not sufficient for project-level analysis on its own, modeling does provide an approximation of what to expect when any given alternative is selected. Project-level planning will incorporate additional inventory information in order to guide, design, and implement economical young-growth projects in the future, including young-growth outputs from the beach and estuary fringe, RMAs, and the Old Growth Habitat LUD. This project-level planning will account for all Amended Plan standards and guidelines and other plan components, including those the objectors label as "NFMA and TTRA restrictions." For additional discussion of the Forest's ongoing young-growth inventory efforts, see my response to Issue TM 1, above.

As discussed in the Draft ROD, the implementation of the Amended Plan will be monitored. If, as a result of that monitoring and further review, the Responsible Official determines that the Amended Plan unnecessarily affects the ability of the Forest to produce economic timber sale projects, another forest plan amendment process may be initiated, focusing on opportunities to promote economic timber sales without compromising the Amended Plan's goals, objectives, and desired conditions [Draft ROD, p. 42].

Objectors reference the Resources Planning Act (RPA) to further contend that the Draft ROD does not quantify the economically viable old-growth timber that will be wasted (as a result of the transition). The RPA requires the Secretary of Agriculture to prepare an assessment of the Nation's renewable resources every 10 years [16 U.S.C. § 1601, Public Law 93–378, 88 Stat. 475, as amended]. The amendments referenced by objectors added specific reporting requirements for forest products, including (1) the additional fiber potential in the National Forest System... and (2) the potential for increased utilization of forest and wood product wastes [see 16 U.S.C. § 1601(c)(1)-(2)]. This requires the Secretary to include in the decadal assessment the potential to capture economic value from (1) logging residue (i.e., slash) and (2) mill residue in the form of reconstituted products (i.e., fuel pellets and firewood). Unharvested old-growth trees are not "waste" under the RPA, as suggested by objectors. Indeed, old-growth trees and old-growth stands contribute to resource values aside from timber production, such as outdoor recreation, watershed, wildlife and fish, and wilderness. The FEIS [p. 3-349, Table 3.13-10] identifies the number of acres of productive old growth forest–wide, existing and after 100 years. Even so, the RPA requires that utilization of timber products and mill residue be considered in the Secretary's decadal national assessment, not in NFS land and resource management plans as objectors suggest [compare 16 U.S.C. § 1601 and § 1604]. The Forest was not required to include RPA assessment findings or otherwise quantify waste of currently economic and harvestable old-growth timber caused by the transition.

With regard to the level of investment needed from industry and Congress to make the transition viable, the Draft ROD recognizes that the uncertainty surrounding sale quantities has increased the risk faced by potential purchasers and investors in local processing capacity. Additionally, the Draft ROD acknowledges that providing economic timber sales in Southeast Alaska has always been a challenge and is expected to remain so in the future [Draft ROD, p. 27, 42]. However, as discussed above in response to Issues NEPA 1 and TM 1, Forest Service investments in the inventory of young growth are expected to provide further information for the development of economic timber sales, enabling industry to successfully transition to young-growth harvest. Moreover, if the Responsible Official, working with stakeholders, determines

that the Amended Plan unnecessarily affects the ability of the Forest to produce economic timber sale projects, another plan amendment may be initiated, focusing on opportunities to promote economic timber sales [Draft ROD, p. 42].

While the Amended Plan, FEIS, and ROD acknowledge the need for additional investments by both industry and the Forest Service to affect a transition to young growth, neither NEPA nor NFMA require the Forest Service to display the source of those supplemental funds. The 2012 Planning Rule does generally recognize potential financial constraints by requiring the Responsible Official to ensure "the planning process, plan components, and other plan content be within the fiscal capability of the unit" [36 CFR § 219.1(g)]. As discussed above in response to Issue NEPA 1, I believe the Responsible Official has met that requirement.

Objectors contend the conclusions that the net present value of the overall timber program is positive and that young growth alone will be profitable after 25 years are not supported by the financial analysis contained in the FEIS. The Woodstock model used to complete the programmatic analysis provided results that, when viewed over 15- and 100-year planning horizons, resulted in positive net revenues for all five alternatives analyzed [FEIS, p. 3-516]. Alternative 5, the Selected Alterative, would also result in modeled positive net revenues over the 25-year planning period [Id.]. Positive values for the five-year increments that comprise years 1 to 25 is due to the old-growth component of the projected harvest. In contrast, in most cases the net revenues generated by the young-growth component alone were negative [Id.]. The FEIS concludes that this modeled, programmatic analysis suggests that individual timber sales offered under any of the alternatives in the first 25 years of the planning period will likely need to include a mix of old growth and young growth to appraise positive as required by Public Law 112-74, House Report 2055-257, Section 414 [FEIS, p. 3-517].

Objectors challenge the use of certain cost and value data in the Woodstock model, which was disclosed in Appendix B to the FEIS. The assumptions and values used to develop the estimates were updated following comments received on the DEIS, and represented the best available information at the time [FEIS, Appendix I, p. I-140]. As discussed below in response to Issue ES 2, the Woodstock model is a strategic planning tool designed to explore differences relative to decision-making. The FEIS includes the financial analysis generated from the model to offer a relative comparison of timber sale revenue among alternatives.

The economic benefits associated with timber harvest are based on appraised value. Timber values produced by the Woodstock model were based on the current appraisal practices for Southeast Alaska contained in FSH 2409.22, and on the appraisal bulletin and log cost calculator formulas in effect at the time modeling began.

The assumptions used by the modelers for logging and manufacturing costs are consistent with established logging cost formulas used in Region 10. Those assumptions are based on the periodic reporting of the actual costs from current operations in Southeast Alaska. The formulas themselves came from the Region's private consultant report, which is the best available and most applicable time and motion study for Southeast Alaska [FEIS, Appendix B]. Yields for existing young-growth stands were modeled based on a recent inventory. Yields for future regenerated stands were modeled based on a subset of the young-growth yields. Even with all of this information based on observed conditions, modeling future scenarios requires that some

assumptions be made [see Appendix B]. Expected values for young-growth products are admittedly optimistic, yet reasonable for the 100-year time frame of the model projections because they are based on both observed conditions and future price forecasts. This is the best available information at the present time.

In this planning effort, the Woodstock model was used to ensure that land allocations and output schedules for alternatives were both realistic and met the Amended Plan's standards and guidelines in a cost-efficient manner. While the model may lack precision in describing the specific attributes of a given alternative, the costs and values it generates are appropriate for a programmatic assessment where they provide the Responsible Official the ability to make an informed choice between alternatives. Opinions differ about values or assumptions that "should have" been used in the model, and about what the expected Discounted Net Revenues table [Table 3.22-17, FEIS, p. 3-517] might show. The model could have been run on exact Region 10 timber sale appraisal rules and values as if a project-level timber sale was being appraised at the exact time of this planning effort, but that point-in-time snapshot would not necessarily reflect future conditions and is neither necessary nor appropriate for a programmatic-level modeling exercise intended to guide future management decisions. It also would not have changed the relative ranking of the alternatives. Thus, I believe the Responsible Official was provided sufficient, reasoned information regarding the economic challenges facing a young-growth based program, and this information was sufficient to make an informed decision among alternatives.

The FEIS and Draft ROD fully recognize that the costs and existing markets for young-growth sales will prove challenging, and that implementation of the Amended Plan will need to be monitored to ensure that the transition can be achieved through economic timber sale projects [see my response to Issue ES 2, below, for additional discussion regarding cost and value collection procedures].

Objectors further contend the Draft ROD violates NEPA and the APA by not identifying a five-year schedule of timber sales, as the 2008 Forest Plan did, to demonstrate that the young growth can be economically harvested. As stated in the Response to Comments:

> [The Forest Service Land Management Planning Handbook,] FSH 1909.12, Section 22 states that a plan should not include a "to do" list of projects and expected dates. While a full and detailed schedule for the next 5 years is certainly desirable and every effort will be made to obtain it, it is not immediately able to be produced. An intense inventory of young growth is just now begun in collaboration with the State of Alaska to get information that will better enable the Forest Service to identify those areas of both young growth and old-growth that meet the criteria of feasible, economic offerings and meet all Forest Plan Direction.

[FEIS, Appendix I, p. I-34]. Notably, the TAC provided recommendations on how to implement the Amended Plan, noting the importance of collaboration with stakeholders to ensure that the five-year timber sale schedule becomes:

> [A] reliable strategic document which allows stakeholders to understand the projected ramp-down of old growth and the ramp-up of young growth sales… These projections must become credible and reliable through a deliberate process by the Agency. Credibility is established through 1) strict adherence to schedules; and 2) continuity of supply insured by a "pipeline" or inventory of shovel-ready projects to allow for unexpected interruptions.

[Amended Plan, Appendix B, TAC final recommendations, p. 19]. I believe that the ongoing inventory work discussed above in response to Issue TM 1 will provide the credible, reliable information the Forest needs as it moves forward with implementation of the Amended Plan and, especially, with development of the five-year timber schedule.

Conclusion

Based on my review of the Amended Plan, FEIS, Draft ROD, TAC final recommendations, and planning record, I believe the Responsible Official recognized and considered the challenges with the markets, supply, and economic viability of young-growth projects. The Amended Plan includes goals, objectives, standards and guidelines, and other plan components to effectuate a successful transition to young-growth harvest on the Tongass. Importantly, the Forest has committed to monitoring implementation of the Amended Plan with stakeholders to determine if the goals of the Amended Plan are being met [see, for example, Amended Plan, p. 5-4].

While a full schedule of sales for the expected life of the Amended Plan is not feasible, the current draft five-year timber sale schedule should be posted on the external Tongass web page, consistent with past practices, by December 31, 2016. This schedule should be updated and posted annually by December 31st of each year, and I am directing the Responsible Official to add this to the Amended Plan as a management approach that can be appropriately tracked and monitored.

Issue TM 5: Objectors contend the proposed transition time frame is too long and does not comply with the Secretary of Agriculture's 2013 Memorandum directing a 10-15 year transition or less. Objectors further contend that the Draft ROD's premise that the continued harvest of old growth is necessary to give young growth time to grow, to give industry time to adjust to the new market, and for the economic viability of the timber industry is unsupported, violating NEPA. Specifically, objectors contend:

- The Draft ROD failed to adequately consider and disclose whether the proposed slow transition will result in adverse effects on the timber industry because the continued focus on old growth harvest is high-risk and costly (higher timber sale preparation costs and higher litigation risk) and unnecessarily prolongs industry investment in harvesting and marketing smaller wood;
- The Draft ROD's continued harvest of old growth throughout the transition, without firm commitments to decrease old-growth harvest, will result in adverse effects on forest resources and did not adequately consider carbon and climate change factors; and

- The Amended Plan did not incorporate critical and feasible recommendations of the Tongass Advisory Committee, including the more rapid reduction in old-growth harvest on a one-to-one basis with any young-growth timber made available; the identification of the total pool of old-growth bridge timber within two years; and the completion of old-growth bridge timber planning through Gate 2 (NEPA analysis) in 5 years.

Objectors further contend the DEIS did not include adequate consideration of the one-to-one provision, precluding public review, and that the Forest Service has ignored expert scientific opinion calling for an immediate end to old-growth timber harvest.

Objector(s): GEOS Institute (Objection #0010)
Margo Waring (Objection #0015)
Alaska Wilderness League (Objection #0032)
Audubon (Objection #0041)
Defenders of Wildlife (Objection #0034)
Trout Unlimited (Objection #0036) (p. 8-10)
Sitka Conservation Society (Objection #0037)
Earthjustice, et al. (Objection #0039)
GSACC, et al. (Objection #0042)

Response

The Secretary's Memorandum indicates that the transition to "more ecologically, socially, and economically sustainable forest management is a high priority for USDA, the Forest Service, and the Tongass National Forest." The Memorandum also states:

> USDA's goal is to effectuate this transition over the next 10 to 15 years, so that at the end of this period the vast majority of timber sold by the Tongass will be young growth. This timeframe will conserve old growth forests while allowing the forest industry time to adapt.

[PR #769_01367, p. 1]. The Memorandum goes on to state that "USDA is equally committed to doing its part to ensure that the communities within and adjacent to the Tongass National Forest are economically vibrant," and that "we must do this in a way that preserves a viable timber industry that provides jobs and opportunities for residents of Southeast Alaska" [Id.]. The Memorandum expressly recognizes that a successful transition to young-growth forest management is dependent on retaining some industry expertise and infrastructure, stating:

> To accomplish the transition to a timber program based primarily on young growth, it is important to retain the expertise and infrastructure of the existing industry so businesses can quickly re-tool. These businesses are fundamental to both the young growth and restoration components of the future timber program, and to the economic vitality of the region. Such an approach requires a reliable supply of economically viable timber, with the old growth component decreasing over time while the young growth component increases.

[Id., p. 2]. The FEIS for the Amended Plan [p. 2-34] outlines how the transition will occur under the Selected Alternative:

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

In sum, based on the preceding five-year average, by Year 15 the majority of timber sold by the Tongass is expected to be young growth under the Selected Alternative, and by Year 16, full transition to young growth is expected to occur. I believe this meets the timeframe in the Secretary's Memorandum, and it also responds to the goal "to ensure that the communities within and adjacent to the Tongass National Forest are economically vibrant." As stated in the Memorandum, "[t]hese two goals must go hand in hand" [PR #769_01367, p. 1].

In regard to the contention that the old-growth harvest allowed in the Amended Plan is not supported, the Secretary did not envision an immediate or complete end to old-growth harvest. His Memorandum states:

> To ensure a smooth transition, the Forest Service will continue to offer a supply of old growth timber while increasing the supply of young growth to provide industry in Alaska the opportunity to develop new markets, learn new skills, and acquire new equipment. The continuation of limited sales of old growth timber is essential to maintain the existing industry until young growth can efficiently be processed.

The Memorandum expressly recognizes that a successful transition to young-growth forest management is dependent on retaining some industry expertise and infrastructure, and that "[s]uch an approach requires a reliable supply of economically viable timber, with the old growth component decreasing over time while the young growth component increases" [Id., p. 2].

With regard to the contention that expert opinions have advocated an end to old-growth harvest, see my response to Issue NEPA 2, above. The Plan Amendment FEIS did consider an immediate end to old-growth harvest. As stated in the FEIS, an immediate end to old-growth harvest "would result in substantial adverse effects on the timber industry of Southeast Alaska" and "would not meet the need for maintaining a viable industry that provides jobs and opportunities for Southeast Alaska residents." Thus, it would not be consistent with the Secretary's Memorandum and the purpose and need for the Plan Amendment [FEIS, p. 2-6].

Conclusion

I believe the Amended Plan and Draft ROD are consistent with the Secretary's Memorandum and the purpose and need for the Plan Amendment.

Lands Not Suitable for Production

Issue TM 6: Objectors contend the Amended Plan's Development LUDs contain forest lands deemed not suitable for timber production. Some objectors contend the Amended Plan includes old growth in Phase 2 and 3 lands, Tongass 77 Watersheds, and Audubon/TNC Conservation Priority Areas that is considered not suitable for timber harvest. Questioning the Forest's responses to comments on this topic, they contend that the NOI for the Plan Amendment informed the public that the Forest Service would evaluate which lands were available for timber harvest, and that this should have also included changes to LUD allocations.

Other objectors contend that intensively logged areas in Development LUDS should also be deemed not suitable for further timber harvest. Specifically, these objectors contend:

- The Forest Service never analyzed the trend toward intensive timber development on the southern and central Tongass, where high-volume and large-tree POG have been removed at a disproportionately high amount. As a consequence, the lower classes of old growth have become more important as habitat and the Forest Service should determine that these areas are no longer suitable for timber production;
- The timber suitability determinations failed to consider the cumulative loss of habitat;
- Further logging, especially of the remaining highest quality old-growth forest, is inconsistent with plan objectives for air quality, biodiversity, fish, karst resources, plants, scenery, subsistence, and wildlife; and
- The Forest Service failed to develop measures responding to Alaska yellow cedar decline, and failed to consider this in the suitability determinations and develop alternatives that avoided healthy yellow cedar stands.

Objector(s): Earthjustice, et al. (Objection #0039)
GSACC, et al. (Objection #0042)

Response

The 2012 Planning Rule addresses timber management requirements at 36 CFR § 219.11, which specifically apply to this Plan Amendment focused on the transition from old-growth to young-growth timber harvest. The Rule at 36 CFR § 219.11(a) directs the Responsible Official to identify lands within the plan area as not suitable for timber production; correspondingly, the Rule at 36 CFR § 219.11(b) provides that where a plan identifies lands as suitable for timber production, it must include plan components to guide timber harvest for timber production or for other multiple use purposes on such lands [36 C.F.R. § 219.11(a), (b)].

Forest Plans are required to identify where lands suitable for timber production occur within the plan area. Appendix A of the Amended Plan clearly identifies the lands that are suitable and not suitable for timber production in the Development LUDs [p. A-5, item 3b]. For old-growth forests in the Tongass 77 Watersheds, Audubon/TNC Conservation Priority Areas, and Phases 2 and 3 of the Tongass Timber Sale Program Adaptive Management Strategy that overlap Development LUDs, Appendix A clearly states that old-growth forest in these areas is not

suitable for timber production; only young-growth stands in Phases 1, 2, and 3 of the Tongass Timber Sale Program Adaptive Management Strategy (outside of IRAs) are suitable for timber production. The determination that these lands are suitable for young-growth timber production is consistent with requirements of NFMA and its regulations.

As stated in Appendix A, the status of land as suitable for timber harvest does not mean that timber production is the primary purpose of management of those lands. Rather, it means that some timber production has been deemed compatible with the desired conditions and objectives established by the plan for those lands. See my response to Issue NFMA 1, above, for further discussion on the suitability of young growth in Tongass 77 Watersheds and Audubon/TNC Conservation Priority Areas. See also my response to Issue WLF 4, above, for a discussion on whether the Plan Amendment FEIS adequately considered the effects of young-growth harvest in these areas.

With regard to the contentions that intensively logged areas, especially on the southern and central part of the Forest, and the remaining highest quality old-growth forest should be deemed not suitable for timber harvest, I believe the FEIS and planning record clearly indicate that the cumulative effects of the Amended Plan, including the suitability determinations made as part of that Amendment, have been fully considered and disclosed. The FEIS acknowledges that "[l]ow elevation, larger-tree stands have been disproportionately harvested," and identifies the particular areas where this harvest has occurred [p. 3-195]. The FEIS also acknowledges the effects of this disproportionate harvest on wildlife [p. 3-289]. While much of the discussion focuses on cumulative harvest of POG, the FEIS acknowledges the potential effects of young-growth harvest in these areas [Id.]. Forest-wide, the Amended Plan would maintain at least 99 percent of existing POG, 99 percent of the existing high-volume POG, and 99 percent of the existing large-tree POG [FEIS, p. 3-215]. The FEIS acknowledges that these effects would be higher in certain areas [Id.].

With regard to areas with healthy Alaska yellow cedar stands, the FEIS discusses Alaska yellow cedar, acknowledging that "[d]ecline and mortality of yellow-cedar continues to be one of the most widespread and important forest problems in Southeast Alaska" [p. 3-176]. As stated in the Response to Comments:

> [T]he Forest has ensured long-term survival by allocating much of the Alaska yellow-cedar's range on the Tongass to non-Development LUDs, while also practicing active forest management like thinning and planting to encourage future establishment and survival of future AYC trees. All of these practices are already part of the Forest Plan, TIM-2, and will continue to be practiced.

[FEIS, Appendix I, pp. I-40, I-41]. The Amended Plan includes the standard and guideline to "[i]nclude an appropriate species mix for regeneration in the silvicultural prescription prepared during the environmental analysis. The 'appropriate species' is based on the potential of the site as indicated by plant associations and adjacent stand conditions" [p. 4-67, TIM2 (I)(F)]. The FEIS discusses the efforts the Forest has made to target cedar regeneration in areas that are expected to be favorable for cedar growth and survival [Appendix I, p. I-41]. It also discusses some of the science that has been considered in making decisions related to cedar management on the Tongass [Id.; see also PR #769_00142, PR #769_00689, PR #769_00991].

Conclusion

Based on my review of the FEIS, Amended Plan, and planning record, I believe the Forest's identification of the lands suitable for timber production is consistent with the requirements of NFMA and the 2012 Planning Rule, and that the effects of those suitability determinations have been fully considered and disclosed.

Issue TM 7: Objectors contend the sustained-yield limit in the Amended Plan violates NFMA, MUSYA, and implementing regulations because the Forest included lands deemed not suitable for timber production in calculating this limit. Objectors contend the Forest must calculate the sustained-yield limit only from those lands where timber removal is actually allowed.

Objector(s): Earthjustice, et al. (Objection #0039)

Response

The MUSYA directs the Forest Service to manage NFS lands and resources for the multiple use and sustained yield of the several products and services obtained therefrom, with consideration given to the relative values of the various resources in particular areas [16 U.S.C. § 529]. The NFMA recognizes that the sale of timber is limited to a quantity equal to or less than a quantity that can be removed annually in perpetuity on a sustained-yield basis [16 U.S.C. § 1611; see also 2012 Planning Rule at 36 CFR § 219.11(d)(6)]. The 2012 Planning Rule acknowledges that timber is one of the multiple use purposes of the National Forest System, as recognized by the MUSYA and NFMA, among other statutes.

The 2012 Planning Rule addresses timber management requirements at 36 CFR § 219.11, which specifically apply to this Plan Amendment focused on the transition from old-growth to young-growth timber harvest. The Rule at 36 CFR § 219.11(a) directs the Responsible Official to identify lands within the plan area not suitable for timber production; correspondingly, 36 CFR § 219.11(b) provides that where a plan identifies lands as suitable for timber production, it must include plan components to guide timber harvest for timber production or for other multiple use purposes on such lands [36 C.F.R. § 219.11(a), (b)]. The quantity of timber that may be sold from a national forest is limited to an amount equal to or less than that which can be removed annually in perpetuity on a sustained-yield basis [36 C.F.R. § 219.11(d)(6)].

The preamble to the 2012 Planning Rule indicates that the Forest Service directives determine the method for limiting the quantity of timber removed annually [77 Fed. Reg. 21228]. This limit is known as the sustained yield limit, which is defined in the Forest Service Land Management Planning Handbook [FSH 1909.12, Chapter 60], as follows:

> The Responsible Official shall identify the amount of timber that can be removed annually in perpetuity on a sustained-yield basis from the applicable national forest. This amount of timber is the forest's sustained-yield limit (SYL)…

> The Responsible Official shall determine the sustained yield limit as the amount of timber that could be produced on all lands that *may be suitable* for timber production, assuming all of these lands were managed to produce timber without considering other multiple uses or fiscal or organizational capability… (emphasis in original).

[FSH 1909.12, Chapter 60, Section 64.31]. The Handbook goes on to state that "[b]ecause the land that *may be suitable* for timber production does not vary by alternatives considered in the [EIS]… the [SYL] is a single constant for the applicable national forest" [Id.].

Thus, the calculation of the sustained yield limit includes volume from lands that may subsequently be deemed not suitable for timber production after further analysis during the planning process. Calculation of the sustained yield limit is not limited by land management plan desired condition, other plan components, or the planning unit's fiscal capability and organizational capacity. The sustained yield limit is not a target, but is a limitation on harvest.

As discussed in Appendix A of the Amended Plan, identifying lands as not suitable for timber harvest is accomplished in two steps:

1) Identify lands that are **not suited** based on legal and technical factors…

   Subtract the lands that are not suited from the total of [NFS] lands. The remaining lands are lands that **may be suited** for timber production, and are considered in step 2.

2) From the lands that may be suited for timber production… identify lands that are **suited for timber production**, based on the compatibility of timber production with the desired conditions and objectives for those lands.

[Amended Plan, Appendix A, p. A-1, emphasis in original].

As stated in Appendix A, the status of land as suitable for timber production does not mean that timber production is the primary purpose of management on those lands. It means that timber production is compatible with the achievement of desired conditions and objectives established by the Plan and some regular flow of timber products may be expected.

The FEIS and planning record indicate that the sustained yield limit for the Amended Plan was correctly calculated based on the identification of the lands that may be suitable for timber production (step 1, above). While the Responsible Official, during the planning process and in making his decision on the Amended Plan, subsequently determined that lands were not suitable for timber production (step 2), this does not affect the sustained yield limit calculations.

Conclusion

Based on my review of the FEIS, Amended Plan, and planning record, I believe the sustained yield limit for the Amended Plan was calculated in accordance with regulation and policy, and the process is appropriately documented in Appendix A of the Amended Plan.

Timber Export Policy

Issue TM 8: Objectors contend the FEIS failed to adequately analyze and consider alternatives to the Alaska Region's limited export policy (export policy), in violation of NFMA, NEPA, APA, and the MUSYA. They contend the analysis failed to assess the procedural deficiencies with the Forest Service's adoption of the export policy, and that the Forest Service failed to adequately consider the environmental and employment consequences of the policy. Specifically, objectors contend:

- The policy itself was not subjected to NEPA review, and as it is a programmatic policy, applying to all timber sales across the Tongass, such an analysis cannot be undertaken at the project level. The Plan Amendment FEIS must include an analysis of the export policy, and this analysis should consider alternatives to the policy (including no export and modifications to the policy) and the effects of the policy on the environment;
- The analysis of the export policy must also include an analysis of the reduction in jobs as a result of export, so that the trade-offs between providing timber and timber industry-related employment and other resources and uses are clearly understood and disclosed;
- The Draft ROD's statement that TTRA requires timber sales to be offered so long as there is a demand for Tongass timber is incorrect and contradictory to the Forest Service's interpretation of TTRA and to interpretations of TTRA provided by Federal Courts;
- The FEIS states the policy provides flexibility for the region to balance the economics of timber sales to meet market demand, yet the FEIS's market demand estimate assumes the existence and continuation of the policy. This results in the circular argument that the policy is necessitated by the need to meet demand, which is estimated assuming the continuation of the policy. Such an argument is unreasonable and arbitrary and failed to provide the public and decision-makers a clear basis for choice among options, including precluding the export of Tongass timber; and
- Use of the case-by-case exception to the policy, which could result in up to 100 percent export "where it would further the goals and objectives of the Forest Plan," is misguided as well as unlawful, and violated the APA's notice and comment requirements. Data shows the Forest Service routinely waives the policy and allows purchasers to ship an increasing proportion of timber out of the region as unprocessed logs, and the failure to analyze this programmatic shift to an unlimited export timber sale program violated the agency's obligation to balance multiple resource uses under NFMA and the MUSYA.

Objector(s): Earthjustice, et al. (Objection #0039)
GSACC, et al. (Objection #0042)

Response

The Forest Service has long recognized that special circumstances exist in Alaska such that limited export allowance of forest products from the Tongass actually works to maintain local industry. Accordingly, the Forest Service allows, but appropriately limits, the export of unprocessed timber from National Forests in Alaska under the general authority of the Organic Administration Act of June 4, 1897 [16 U.S.C. 475, 551], NFMA [90 Stat. 2949, 16 U.S.C. 472a, et seq.], and 36 CFR § 223.201. The regulation at 36 CFR § 223.201 was

appropriately noticed, commented upon, and adopted in 1974, and gave the Regional Forester sole responsibility and authority to approve shipment of unprocessed timber from NFS lands in Alaska via export from the United States or shipment to other states, provided certain specific considerations were met [see Appendix H]. The establishment of the limited export policy in 2007, updated in 2009, enables the Forest Service to appraise timber sales for export for the purpose of offering enough positive-value timber sale volume to enable the struggling forest products industry to remain viable [PR #769_01169; see also Attachments #B19, #B20, #B21, and #B22].

The Amended Plan is a programmatic document which sets policy and establishes sideboards on allowable actions. The Amended Plan neither approves nor compels any specific action. The decision to actually authorize a specific project is made at the project level, after site-specific environmental review [see *Ohio Forestry Association v. Sierra Club,* 523 U.S. 726 (1998)]. Likewise, the limited export policy, developed outside of the Amended Plan, neither approves nor compels any specific action. The Forest Service has analyzed the policy both at the programmatic and site-specific levels since its adoption. While analysis at the programmatic level assists the agency in selecting among management alternatives, the Forest Plan itself does not authorize the harvest of timber without further site-specific NEPA review. Project-level NEPA analyses evaluate the effects of timber sales in light of the policy, including the potential effects on in-state employment and the financial efficiency of project alternatives.

The NEPA analyses for specific timber sale projects evaluate the effects of harvesting trees on the environment, regardless of end product or destination. Being mindful of the annual requirement from Congress to use a residual value appraisal system and offer only positive value sales, the limited export policy allow appraisal of up to 50 percent of the spruce and hemlock to foreign markets to improve opportunities for purchasers [see Public Law 113-291, December 19, 2014, 128 Stat. 3729, Section 3720(e)(4); see also FEIS, Appendix H, p. H-2, footnote 14 and PR #769_01169]. While appraising for export may well allow more volume to be offered under a particular project, it does not allow for more volume than that analyzed and disclosed pursuant to NEPA. The limited export policy itself has no effects on the environment because it does not authorize harvest or export of wood products. Rather, implementation of the policy takes place at the project level and requires site-specific environmental analysis pursuant to NEPA, NFMA, and the APA.

With regard to objectors' contentions regarding the reduction in jobs as a result of export, the effects of the export policy have been discussed and disclosed in "*Impacts on sawmill and logging employment in southeast Alaska of the limited interstate shipment policy"* [2008 Forest Plan Record #603_1060]. The discussion clearly describes the expected number of jobs, based on estimated volume, and those employment coefficients can be used for project-level analyses. The determination of which logs will be manufactured in state and which logs will be exported, under an approved export permit, is ultimately up to the purchaser; therefore, it is reasonable to calculate and display potential employment as a range, assuming either no export or the maximum export of 50 percent. Likewise, it is reasonable to apply the same standard for analysis at the programmatic level. The estimated timber employment outputs of the Amended Plan were analyzed and presented as a range, based on the existing limited export policy. The direct employment and income estimates are presented as a range in the Plan Amendment FEIS in Table 3.22-19 [p. 3-519]. Although the FEIS estimates of the value of timber under the

various alternatives are based on maximizing shipments of timber sold out of state [Table 3.22-17, p. 3-517], purchasers have a choice to either sell as much as they can to other markets as allowed under the limited export policy, or process part or all of the material in local sawmills.

Under current market conditions, appraising for export may allow more previously-analyzed and cleared volume to be offered to purchasers, thereby providing them choices and options to keep their infrastructure operational. Under more favorable market conditions, various approaches may be used to encourage domestic processing (for example, the Big Thorne timber sale was appraised for 38 percent export) [see FEIS, Appendix H, p. H-5]. I believe the effects of the export policy on employment have been clearly displayed and evaluated at the programmatic level.

With regard to objectors' contention about the accuracy of the statement in the Draft ROD that TTRA requires that "timber sales must be offered so long as there is a demand for Tongass timber," objectors are correct and that statement is incomplete and thus not consistent with the Forest Service's interpretation of TTRA. I will direct the Responsible Official to correct the statement in the Final ROD.

Objectors contend that the Forest Service relies on a circular argument that the limited export policy is necessitated by the need to meet demand, which is estimated assuming the continuation of the policy. See my response to Issues ES 6 and ES 8, below, for a discussion of the market demand analyses conducted for the Amended Plan. As indicated in that discussion, the baseline demand model assumes that projected trends in imports, consumption, and market share will remain constant, and that softwood log exports from all lands will continue at current five-year average, "other" production will remain constant, markets for utility logs and other low grade material will remain elusive, and the large majority of residues are sold [see FEIS, Appendix G, p. G-5]. The market demand calculation is based upon data gathered from all land owners, and export is just one of the data points. The existence of an export policy for federal timber contributes to the data, but does not drive the final demand calculation. The decision to appraise a sale for export occurs just prior to offer, and will be dictated by current market conditions. In a good market scenario, appraisal for export may not be necessary to offer a positive-value sale in an effort to "seek to meet" demand. The export policy provides an option; it does not command an action.

Objectors contend that the use of the case-by-case exception to the policy, which could result in up to 100 percent export "where it would further the goals and objectives of the Forest Plan," is unlawful, and that the Forest Service routinely waives the policy and allows purchasers to ship an increasing proportion of timber out of the region as unprocessed logs. I disagree. The case-by-case exception is fully consistent with the Regional Forester's authority under 36 CFR § 223.201 and the conditions therein. Appraisal for additional export may be necessary to have a sale appraise positive so that operators may bid on the sale and have a choice about what to do with the timber. Operators are not compelled to export, even though they are given the opportunity to do so. Consideration on a case-by-case basis meets the objectives of 36 CFR § 223.201, the Amended Plan, and the transition strategy's goal to maintain the existing infrastructure during the transition period.

Conclusion

I believe the limited export policy is consistent with applicable law and regulation. The Amended Plan and the export policy are programmatic decisions which neither authorize nor compel an action. The effects of the export policy on employment has been reasonably evaluated and displayed in the Plan Amendment FEIS, and these employment coefficients will be useful as site-specific projects are proposed to evaluate alternatives and their contributions to the local timber industry. The case-by-case consideration of additional export is consistent with the expressed authority granted the Regional Forester in 36 CFR § 223.201.

Economic and Social Environment

Insufficient Analysis

Issue ES 1: Objector contends the EIS did not analyze the negative effects of amending the Forest Plan. Specifically, objector contends:

- The negative effects include the direct and indirect effects of the Tongass transition upon resource values of non-federal landowners and those landowners' ability to continue a timber program without the old-growth volumes that have come from the Tongass;
- The EIS did not analyze the economic and social effects on communities within the Tongass that are dependent on timber-related jobs if the transition results in the collapse of the timber programs of non-federal landowners, including the ability of the AMHT to provide health and social service to the beneficiaries of the Trust, the ability of the University of Alaska's Lands Office to provide funding to support educational scholarships, and the ability of Sealaska and the numerous village corporations of Southeast Alaska to provide dividends to their shareholders; and
- The EIS did not analyze the effects on wildlife populations if the timber programs of non-federal landowners collapse and the second-growth timber on those lands cannot be appropriately managed, such as the effects that will occur if the 400,000 plus acres of young growth on these lands remain in the stem exclusion phase for the next 100 years.

Objector(s): Trust Land Office (Objection #0030)

Response

Objector contends the Forest did not evaluate the negative effects of the Amended Plan on non-federal landowners, their respective timber programs, and their ability to support communities, shareholders, students, and beneficiaries of health and social services. Their underlying assertion is that the Amended Plan could negatively affect the AMHT, Sealaska Corporation, and the University of Alaska timber programs, and that negative effects on these entities will lead to negative effects on the social and economic well-being of communities, shareholders, students, and AMHT beneficiaries. Objector contends the Forest Service failed to study the negative effects of the Amended Plan on these entities, especially if the Amended Plan causes a collapse of the timber industry because of a failed transition to young-growth harvest. Their objection [at page 4] includes the following statement:

> An analysis of negative effects should include the direct and indirect effects of the Tongass transition to a young-growth based timber program upon the resource values of non-federal landowners… and their ability to continue a timber harvest program without the historical amount of old growth volumes that have come from the Tongass… If the proposed forest plan amendment fails to maintain a viable timber industry during the transition, what are the possible negative effects…?

The CEQ regulations implementing NEPA state that "[t]he [EIS] shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action" [40 CFR § 1502.13]. The regulations at 40 CFR § 1502.14 discuss alternatives, including the proposed action. The Forest Service Handbook (FSH) clarifies these regulations by stating "[t]he purpose and need statement defines the scope and objectives of the proposal. A well-defined purpose and need statement narrows the range of alternatives that may be developed…" [FSH 1909.15, Section 20, p. 10].

The NOI posted in the *Federal Register* [79 Fed. Reg. 30074, PR #769_00046] provided notice that the Forest Service was planning to prepare an EIS that would evaluate an amendment to the 2008 Tongass Forest Plan in response to the following purpose and need statement:

> … to describe the effects of making proposed changes the Tongass Forest Plan to accomplish the transition to young growth management as provided in the Secretary's Memorandum. The Forest Service will evaluate which lands should be available for timber harvest, especially young growth timber stands, and any proposed changes to standards and guidelines and other management direction to promote and speed the transition to young growth management while maintaining a viable timber industry in Southeast Alaska. It will also evaluate other changes suggested in the five-year review.

The DEIS and FEIS further clarified the purpose and need of the Plan Amendment:

> Amending the Forest Plan originates from the July 2013 memo from the Secretary of Agriculture directing the Tongass National Forest to transition its forest management program to be more ecologically, socially, and economically sustainable, while also being responsive to comments in the Five-Year Review… The purpose of this plan amendment is to (1) review lands within the plan area to determine suitability for timber production, especially young-growth timber stands, (2) identify the projected timber sale quantity (PTSQ) and the sustained yield limit, (3) establish plan components (e.g., standards and guidelines) for young-growth forest management and renewable energy development to guide future project decision-making, and (4) consolidate modifications made to the Forest Plan since its approval.

[FEIS, p, 1-8]. USDA's overarching guidance (provided in the Secretary's Memorandum) and the NOI focused attention on evaluating lands, considering changes to Forest Plan standards and guidelines, and implementing other management tools to expedite the transition while

maintaining a viable industry. Guiding documents focused attention on land management tools to implement a transition, and the FEIS fully evaluates and discloses the environmental effects of the Amended Plan.

In addressing what is required in an effects analysis, the CEQ regulations implementing NEPA at 36 CFR § 1502.16 state:

> The discussion will include the environmental impacts of the alternatives including the proposed action, any adverse environmental effects which cannot be avoided should the proposal be implemented, the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and any irreversible or irretrievable commitments of resources which would be involved in the proposal should it be implemented. This section should not duplicate discussions in 1502.14. It shall include discussions of:
>
> (a) Direct effects and their significance;
>
> (b) Indirect effects and their significance; and
>
> (c) Possible conflicts between the proposed action and the objectives of federal, regional, state, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned.

Of particular importance, the NEPA regulations do not require analysis of the effects that may occur should the proposed action or alternatives fail to achieve the desired goal. Rather, if conditions change or effects go beyond what is predicted in the FEIS, then an agency must review that information and determine whether additional analysis may be necessary. The Tongass National Forest conducts regular monitoring through a formal monitoring and evaluation program, which includes an annual monitoring report. The Timber Resources and Economics sections of the Tongass Monitoring Plan [PR #769_01268] include questions that will help determine if the Amendment is achieving its goals:

- Is the Forest meeting demand for economic timber sales within the limits of the timber sale adaptive management strategy? Is there sufficient volume under contract or awaiting sale?
- What are the numbers and trends of employment in the a) wood products, b) recreation and tourism, c) mining, and d) fishing industries in Southeast Alaska?

This Monitoring Plan will be updated for the Amended Plan, and will include similar indicators that will help the Tongass verify the assumptions used in the FEIS and monitor the effects of the Amendment on the timber industry in Southeast Alaska. The results of this monitoring will be provided in the Annual Tongass Monitoring and Evaluation Report. I believe the Forest is well-positioned to observe trends and make any necessary adjustments to how its timber resources are managed.

Contrary to objector's contention, the FEIS and Draft ROD do acknowledge that other landowners are involved and heavily invested in an old-growth timber management program:

- In addition, nearly 0.52 million acres of state, Native corporation, and other private lands are available for harvest...Potential annual harvest on state and private land is estimated to be approximately 90 MMBF (Daniels, et al., 2015). Based on past experience, most of the harvest on private land would be exported and would not contribute to meeting local demand [FEIS, p. 3-349].
- Non-Tongass timber employment also declined over this period, falling from a recent high of 362 jobs in 2003 to 102 jobs in 2014, a decrease of 77 percent (Table 3.22-4). Sawmill employment has historically been supported by Forest Service timber sales, with state timber harvest also contributing. Logging employment is generated from all ownerships, including Native corporation lands [FEIS, pp. 3-485].
- Alternative 5 is based on the recommendations of the TAC, a formally-established federal advisory committee included representatives from federally-recognized Tribes, Alaska Native corporations, national and regional environmental and conservation organizations, timber industry operators, federal, State, and local governments, permittees, other commercial operators, and the general public [ROD, p. 5].

In addition, the FEIS states that "following the transition, the timber industry in Southeast Alaska would be primarily oriented toward young growth. The form this industry might take would be potentially influenced by a range of factors, including industry investment and end markets" [FEIS, p. 3-476]. The "industry," which consists of the mills and the owners of the land from which the timber is removed, will shift, and the effects were discussed as appropriate, given the factors mentioned.

Finally, objectors contend the FEIS did not analyze the effects on wildlife populations if the timber programs of non-federal landowners collapse and second-growth timber on those lands cannot be appropriately managed. The FEIS, BE, and supporting documents in the planning record demonstrate that although many wildlife species may utilize young-growth forests when available, the abundance and distribution of old-growth forest habitats are what support viable wildlife populations on the Tongass:

- There are currently approximately 5.0 million acres of POG forest on the Tongass, of which 2.1 million acres are high-volume POG and half a million acres are large-tree POG, representing 92, 84, and 82 percent of these forest types estimated to have been originally existing in 1954 prior to the beginning of commercial timber harvest (Tables 3.9-3 and 3.9-6). There are approximately half a million acres of young-growth forest on the Tongass, of which 84 percent are a result of past harvest and 16 percent are natural young-growth [FEIS, Table 3.9-5].
- Tongass TES wildlife and fish species occur predominantly within, and depend on, for the majority of their life-history requirements, either old-growth forest (the Queen Charlotte Goshawk), or beach, estuary, and marine habitats (all other TES wildlife and fish) on the Tongass (Table 2) [Wildlife BE, PR #769_01263].

Conclusion

I believe the information presented in the FEIS, Draft ROD, and additional documentation in the planning record and the presence of non-federal landowners on the TAC demonstrates that non-federal landowners have been involved in the Plan Amendment process, and that their views have been considered.

Furthermore, based on my review of the FEIS and planning record, I believe the Forest adequately and appropriately analyzed the potential social and economic effects of the Amended Plan. It is not practical or feasible – and not within the scope of the purpose of the need – to study the full range of positive and negative economic effects of every potential outcome of the Amended Plan. The NEPA regulations do not require the Forest Service to study the effects of a failed alternative. The Tongass National Forest is committed to monitoring the success of the Amended Plan via its formal monitoring and annual reporting program. Monitoring changing conditions and trends is inherent to successful and adaptive management.

Timber Financial Analysis

Issue ES 2: Objectors contend the Forest Service lacks actual data related to the harvest, transportation of, and market for young growth. Specifically, objectors contend:

- There is no actual cable harvest costs on young growth;
- The only harvest cost information collected to date is on one thinning project, and more young-growth sales have to be sold and operated for the Forest Service and the industry to understand the costs of and markets for young growth; and
- Transitioning so quickly with so little actual data on the economics of young growth harvest will result in a high probability of losing the timber industry in Southeast Alaska.

Objector(s): Alcan Forest Products (Objection #0007)

Response

Objector essentially contends there is currently insufficient data regarding young-growth harvest costs, and the Amended Plan should not be approved until additional, reliable cost data regarding young-growth harvest is available.

The Alaska Region has maintained logging cost models since 1997. In 2010, the Region requested a private consultant report to address the need for algorithms specifically constructed to appraise logging costs for various cutting prescriptions in second-growth forests in Southeast Alaska. This report was revised in 2011 and again in 2013 [Hemphill, *Second-growth Logging Cost Models,* Attachment #B18]. The cost models were developed from time and motion studies conducted in stand conditions in British Columbia and the Pacific Northwest that are similar to Southeast Alaska. The private consultant visited Alaska young-growth logging operations on Native Corporation, State, and NFS lands, and consulted with several local logging companies, Forest Service silviculturists, appraisers, and timber cruisers. The private consultant analyzed

cruise inventory, and ground-checked proposed young-growth management stands and prescriptions. The logging cost models are designed to be calibrated with collected actual costs, a procedure completed annually for the old-growth models.

The logging costs used in the Woodstock model that supports the financial analysis in the Plan Amendment FEIS used the equations from the Region 10 appraisal spreadsheets [FEIS, Appendix B, p. B-11]. These equations (including cable thinning) came from the Region's private consultant report, which is the best available and applicable time and motion study for Southeast Alaska. As the FEIS acknowledges, the Region's cost collection process will, over time, provide more refined costs and revenues to those used in the appraisal process [FEIS, Appendix I, p. I-143; Region 10 Supplement to FSH 2409.22-2013-1, Chapters 100, 200]. The appraisal values and costs are sensitive to sale-specific characteristics, such as volume per acre, cut tree DBH, log grade, logging systems, and road costs. These sale variables are input into specific timber sale appraisals. As these variables change from one sale to the next, so will the appraised log values and logging costs. As the Forest Service sells more young-growth timber sales, more costs and values will be collected for a wide range of sale conditions, allowing the Forest Service and industry to better understand costs and markets for young-growth timber in Southeast Alaska. One young-growth sale, Heceta Young Growth Stewardship, has been sold, operated, exported, and completed to date. The costs and values for this project have been collected, and will be incorporated into the next round of appraisal updates due in late December.

Objector contends the timber industry cannot invest in transitioning to young growth with so much uncertainty. The Draft ROD recognizes that the uncertainty surrounding sale quantities has increased the risk faced by potential purchasers and investors in local processing capacity; additionally, providing economic timber sales in Southeast Alaska has always been a challenge and is expected to remain so in the future [Draft ROD, pp. 27, 42]. However, Forest Service investments in the inventory of young growth are expected to provide further information to promote economic timber sales, enabling industry to successfully transition to young-growth harvest [see my response to Issue TM 1, above]. Moreover, if, after a review of any new cost and value information [discussed above] and/or inventory information [discussed in response to Issue TM 1], the Responsible Official determines that the Amended Plan unnecessarily affects the Forest's ability to produce economic timber sale projects, another plan amendment may be initiated, focusing on opportunities to promote economic timber sales [Draft ROD, p. 42].

Conclusion

I believe there is no reason to delay the Amended Plan until additional cost data regarding young-growth harvest is available. Although the number of young-growth projects thus far have been limited, the financial analysis in the FEIS is based on the best available information, utilizing algorithms specifically constructed to appraise logging costs for various cutting prescriptions in second-growth forests in Southeast Alaska. As the Forest sells more young-growth timber sales, more costs and values will be collected for a wide range of sale conditions. These sales will be appraised, utilizing logging cost models and formulas developed specifically for Southeast Alaska to provide economic timber sales that enable industry to successfully transition to young-growth harvest. If the Amended Plan does not produce the economic sales that allow the transition to be successful, another plan amendment may be necessary.

Issue ES 3: Objectors contend the DEIS contained substantial errors related to the public costs and economic benefits of the Tongass timber sale program, and while the FEIS acknowledged and corrected some of the errors, in the process it made more errors, creating a significantly misleading picture of the costs and benefits of the timber sale program. Objectors further contend the Forest Service failed to disclose all of the costs of the timber sale program, and failed to perform any meaningful analysis of the costs and revenues of the program. Specifically, objectors contend:

- The administrative costs identified in the EIS greatly understated the actual costs reported by GAO and Headwaters in recent years, and the FEIS failed to explain this discrepancy;
- Gross revenues were falsely labeled as net in the EIS, presenting inconsistent and contradictory data about revenues;
- The EIS contained no information on actual revenues or expenditures on the timber sale program, and only contained projections that include substantial mistakes and are out of alignment with recent costs and revenues (for example, from 2009 to 2013, the Forest Service spent an average of $22.3 million per year on the Tongass timber sale program and received an average of $1.7 million in revenues. The resulting annual loss to taxpayers was about $20.5 million; from 2005 to 2014, the U.S. Government Accountability Office (GAO) reported an average of $12.5 million annually in timber-related expenditures for the Tongass and $1.1 million in revenues associated with timber harvested from the Tongass, for an average loss of $11.4 million);
- Table 3.22-17 presented "discounted" net revenues higher than the sum of the net revenues for both old growth and second growth. The numbers in Figures 3.22-17 and 3.22-18 are mathematically impossible, therefore at least one of the tables must be wrong and the difference is substantial. Table 3.22-16 is subject to the same problem. This error made it impossible for the reader or the decision-maker to know which, if any, of the tables presented the actual expected revenues for the timber sale program; and
- The EIS and Draft ROD did not disclose the average stumpage values across the Tongass or the location of the stands that appraise positively. In failing to provide this information, the Forest Service violated NEPA because the EIS is incomplete and misleading in its assessment of the adverse impacts on habitat and wildlife.

Objectors contend the Forest Service's failure to provide a meaningful, understandable, and accurate analysis of all of the costs and revenues of the Tongass timber sale program violated NEPA, NFMA, and the MUSYA.

Objector(s): Earthjustice, et al. (Objection #0039)

Response

Objectors essentially contend the Plan Amendment FEIS fails to provide a meaningful analysis of the costs and revenues of the Tongass timber sale program, and that the analysis it does include is false and misleading, in violation of NFMA, NEPA, and the MUSYA. They contend that the timber program administrative costs identified in the FEIS greatly understate the actual

costs reported in the recent GAO and Headwaters Reports. Objectors further contend the FEIS contains no information on actual revenues of or expenditures on the timber sale program, citing numbers from the GAO Report.

The NFMA and the 2012 Planning Rule give considerable discretion to Responsible Officials when considering physical, economic, and other pertinent factors in making decisions. Unlike the 1982 Rule, the 2012 Planning Rule does not prescribe specific processes for assessing and evaluating economic efficiencies; in particular, cost benefit analyses or net present value estimations are not required when evaluating alternatives [77 Fed. Reg. 21187-21188 (April 9, 2012)]. Neither the Forest Service NEPA Handbook [FSH 1009.15, Section 22.32] nor the CEQ regulations implementing NEPA [40 C.F.R. § 1502.23] require that the weighing of the merits and drawbacks of the various alternatives be displayed in a monetary cost-benefit analysis. However, an EIS should indicate those considerations that are likely to be relevant and important to a decision, which may include a variety of quantified or qualitative descriptions of costs and benefits [77 Fed. Reg. 21188].

It is both relevant and important to the Responsible Official's decision on the Amended Plan to disclose whether the transition can be achieved in an economically sustainable manner. The FEIS contains a financial analysis describing net revenues by alternative, developed as part of the Woodstock model analysis [FEIS, pp. 3-516 to 3-519]. This financial analysis was modified to provide greater clarity, as discussed in the Response to Comments received on the DEIS [Appendix I, p. I-145]. Appendix B to the FEIS describes further the Woodstock model analysis, including information on how the disclosed costs and benefits were calculated [Appendix B, pp. B-11, B-12, B-18, B-19].

Objectors contend that the disclosed "gross revenues" are falsely labeled as "net." However, based on my review of the tables, figures, and associated discussion in the FEIS, I believe that net revenue information was in fact provided. Although objectors contend that Table 3-22.17 and Figures 3.22-17 and 3.22-18 are mathematically incorrect, this is inaccurate. Discounted net revenues are displayed in Table 3.22-17 [FEIS, p. 3-517]. Non-discounted net revenues are provided in Figures 3.22-17 and 3.22-18. The respective table and figures are labeled and noted as such. With respect to the mathematical error, objectors appear to have misunderstood the table and figures and what they represented. While Table 3.22-17 provides a summary of 5-year total discounted net revenues for old-growth and young-growth combined, Figures 3.22-17 and 3.22-18 provide separate totals for old-growth and young-growth (respectively), and display annual non-discounted averages in 5-year increments. The example formula provided by objectors does not compare well for this reason, and also applies a discount factor throughout.

Regarding the contention that Table 3.22-16 is subject to the same problem, objectors do not specify which comparison - table or figure - it is that generates this problem. Table 3.22-16 displays discounted net revenues for three time periods: 1-15 years, 1-25 years, and 1-100 years. A full discussion accompanies Table 3.22-16 in the FEIS [p. 3-516], explaining the assumptions used to arrive at stumpage values and those used in the modeling process.

Objectors also contend that the FEIS and Draft ROD do not disclose average stumpage values across the Tongass, or the location of stands that appraise positive. Appendix B of the FEIS, under Activities and Outputs, includes a statement that all values and costs used in the

Woodstock (modeling) are based on the current Forest Service, Region 10 appraisal system (values posted on Regional public web), with actual cost figures included in the planning record. The posted appraisal costs reflect actual costs, and are determined through the cost-collection process used by Forest Service valuation foresters. The specific locations of stands that appraise positive would vary and be dependent on a host of criteria. For example, species composition, site productivity, and unique design features for treating a given location would factor into the determination. Market conditions at the time of offering also factors into the appraisal process [FEIS, p. 3-516].

Objectors contend the administrative costs identified in the FEIS greatly understate actual costs reported by GAO and Headwaters Reports in recent years. Objectors further contend the FEIS contains no information on actual revenues of or expenditures on the overall timber sale program, citing numbers from the GAO Report. A review of the referenced GAO and Headwaters Reports indicates the analysis is based on total appropriated expenditures. The Headwaters Report also includes timber trust fund expenditures, which do not fund commercial timber sales but support the reforestation and non-commercial timber stand improvement sub-programs. Additionally, the overall timber resource program includes some generic costs that do not contribute to outputs, such as training, travel for training purposes, supply costs not related to timber sales, program oversight, supervision, budgeting, human resources duties, etc. A portion of the appropriated timber program expenditures also supports non-commercial administration of sub-programs such as special forest products and Alaska free-use timber and fuelwood. While such portions of the timber program do not generate commercial outputs, they provide important public benefits and there are costs associated with providing those services, which are encompassed and reflected in the total expenditures that are presented in the reports cited by objectors. Because all of these subcomponents of the total appropriations reflected in the GAO and Headwaters Reports are not germane to achieving the transition from old-growth to young-growth harvest through commercial timber sales offerings, applying this information to the FEIS financial analysis would be inappropriate.

Conclusion

The FEIS contains a financial analysis disclosing timber sale revenues and costs using information that was current at the time of analysis. Although the information contained in the noted tables and figures is not inaccurate, I am instructing the Responsible Official to publish a correction, through an errata, to modify the footnoting associated with those tables and figures for the purpose of clarifying that Table 3.22-17 represents discounted 5-year total net revenues and Figures 3.22-17 and 3.22-18 represent non-discounted annual average totals in 5-year increments.

Non-Timber Financial Analysis

Issue ES 4: Objectors contend the Draft ROD is arbitrary because the Plan Amendment EIS omitted the information needed to evaluate the economic sustainability of the Tongass timber program and the public costs of the program, including reduced salmon harvests, lost recreational opportunities due to the effects of harvest activities, loss of scenery, and declines in subsistence resources. Specifically, objectors contend:

- The EIS failed to compare the benefits to recreation, fisheries, and subsistence provided by intact old-growth forests with the adverse economic effects on these interests by logging old-growth and recovering forests;
- The EIS failed to disclose the actual public expenditures on significant timber program costs, and failed to disclose the road-related costs and additional, undisclosed road construction, reconstruction, and pre- and post-haul maintenance costs that are borne by taxpayers; and
- The EIS failed to evaluate how implementation of the Amended Plan will impose real costs, monetary and otherwise, on other forest values, and failed to give these other values equal consideration. Objectors state that NEPA documents need to assess the "relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity for other users of forest resources," and contend the Forest Service failed to do so in the EIS.

Objector(s): GSACC, et al. (Objection #0042)
Margo Waring (Objection #0015)

Response

Objectors contend that the negative effects of ongoing old-growth timber harvest on commercial fishing, tourism and recreation, and subsistence activities are not comprehensively assessed in the FEIS. Secondarily, objectors contend that the benefits of ongoing timber harvest are not weighed against the assumed negative effects on other economic sectors or other forest values. The objectors are particularly interested in analyses that would have explored the relationship between industry sectors, with particular focus on the effects of ongoing old-growth timber harvest across all other economic sectors.

In short, objectors contend the FEIS, Chapter 3 (Environments and Effects) is not comprehensive enough, does not yield meaningful data, and does not adequately discuss the relationship between economic sectors. Their concerns appear to be based, at least in part, on an assumption that an inverse relationship exists between timber and other economic sectors. In other words, as old-growth timber harvest continues, the well-being of other economic sectors declines. The majority of their comments, and the associated Forest Service responses, in the Response to Comments section of the FEIS [Volume II, Appendix I] are related to this specific concern [pp. I-147 to I-151].

As evidenced in those responses, Chapter 3 of the FEIS (Environment and Effects) contains significant analyses and discussion related to subsistence [pp. 3-417 to 3-431] and the economic and social environment of the Tongass National Forest [pp. 3-477 to 3-524], including subregion areas [pp. 3-525 to 3-536] and communities [pp. 3-537 to 3-695]. The Economic and Social Environment section of the FEIS discusses the contribution of timber and other natural resource-based industries to Southeast Alaska's regional economy [pp. 3-477 to 3-524]. In addition to forest products, this section provides a detailed discussion of the recreation and tourism, commercial fishing and seafood processing, and minerals development economic sectors.

Economic indicators including employment, income, earnings, and employment are discussed by economic sector and over a longitudinal timeframe. Furthermore, this section also discusses the importance of quality of life and natural amenities to attracting and retaining residents and businesses.

The Communities section of the FEIS provides detailed information on employment, social demographics, and economic conditions, discussed by community, including various socioeconomic indicators of community health and well-being. Potential community impacts, by resource area (i.e., forest products, energy, tourism, and subsistence) are also thoroughly analyzed and discussed [pp. 3-537 to 3-693].

Finally, the effects on subsistence resources are also thoroughly discussed in the Subsistence section of the FEIS [pp. 3-417 to 3-431] and are also addressed, by community, in the aforementioned Communities section [pp. 3-537 to 3-695]. In these sections, subsistence is discussed in terms of its importance to culture, economy, and lifestyle. The direct and indirect effects of the Amended Plan, along with potential cumulative effects, are discussed in terms of the abundance and distribution of, access to, and competition for subsistence resources. See my response to Issue SUB 1, above, for further discussion of the subsistence analysis conducted for the Amended Plan,

The CEQ regulations implementing NEPA contain 17 provisions related to reducing paperwork, many of which target environmental impact statements. Of particular importance, the regulations at 40 CFR § 1500.4 recommend "preparing analytic rather than encyclopedic environmental impact statements," "discussing only briefly issues other than significant ones," and "emphasizing the portions of the environmental impact statement that are useful to decision-makers and the public and reducing emphasis on background material." In my opinion, the analysis of the potential effects of the Amended Plan on the non-timber economic sectors of the Forest is consistent with this guidance.

Further discussion related to Tongass timber sale program public expenditures and the economics of the timber program is provided in my responses to Issues ES 2 and ES 3, above.

Conclusion

Based on my review of the FEIS, Draft ROD, and planning record, I believe that the Forest conducted an appropriate level of analyses regarding the affected economic and social environment of the Tongass National Forest. It is neither practical nor feasible – and not within the scope of the purpose of the need – to study the full range of positive and negative effects of every potential economic outcome of the Amended Plan. The analyses that were completed were appropriate to inform the Responsible Official and provide for a meaningful consideration of the Plan Amendment alternatives, and were consistent with NEPA.

Projected Harvest Levels

Issue ES 5: Objectors contend the EIS overestimated the supply of timber from non-federal lands, and that this was a critical error the Forest Service relied on in determining the 46 MMBF per year amount of timber it will supply to meet "residual" demand under the TTRA. Specifically, objectors contend:

- The Forest Service erroneously relied on the increase in State harvest that occurred over several years in an effort to provide additional timber to make up for a shortfall in supply from the Tongass;
- The last seven years is a better indication of future volume coming off of State lands, based on the fact that AMHT and the University are not bound to manage on a sustained-yield basis. These organizations will contribute less timber in the near future;
- The EIS assumed 20 MMBF from State lands, although it admitted that State lands cannot indefinitely supply that level of timber;
- Sealaska informed the Forest Service that they will average less than 45 MMBF per year for the next 20-25 years, but the Forest Service did not factor this information into its analysis; and
- The EIS did not disclose the level of fall down that is expected. In the past, fall down has been much higher than estimated, and a viable timber industry cannot be sustained if even a small percentage of the base timber acres end up being fall down.

Objector(s): Alaska Forest Association/Southeast Conference (Objection #0027)
Sealaska Corporation (Objection #0029)
Alcan Forest Products (Objection #0007)

Response

The 2012 Planning Rule requires the use of the best available scientific information to inform forest planning and decision-making, and the Rule [at 36 CFR § 219.3] requires the Responsible Official to determine what information is the most accurate, reliable, and relevant to the issues being considered. Additionally, the Responsible Official documents how that information was used to inform the plan decision. The Draft ROD discusses the use of the best available scientific information, with specific narrative regarding the PNW's contribution to the forest planning process [Draft ROD, pp. 32–33].

Forest Service policy indicates that the Responsible Official shall focus on evaluating available, relevant information for a plan amendment [FSH 1909.12, Chapter 20, Section 212]. The terms "available" and "relevant" are further defined in FSH 1909.12, Chapter 10, Section 11:

> The term "available" means that the information is currently and readily accessible by the Forest Service in a form useful for the planning process without further data collection, modification, or validation. If no available information exists for the topic areas described in 36 CFR 219.6(b), there is no requirement to begin new studies to acquire or develop such information.
>
> The term "relevant" means the information must have a demonstrable relationship to the required topics and to the land management plan.

The PNW's timber demand projections are based on economic theory, peer-reviewed methodology, and scientific and objective analysis conducted by timber economists and forest researchers. Daniels, et al. (2016) [PR #769_01365] is the fifth such analysis conducted by PNW during the past 25 years. As in past efforts, Daniels, et al. (2016) estimated the demand for Tongass National Forest timber using a materials balance approach based on forecasted trends in product markets. The projected harvest from the Tongass National Forest is calculated as the volume of timber required to meet the shortfall between total projected timber demand and harvest from other ownerships, primarily Native Corporations and the State of Alaska. In this way, "derived demand" for Tongass National Forest timber is computed as the residual – the quantity of timber required to balance the overall market. It is defined as the volume of National Forest harvest needed to meet the projected consumption of Alaska forest products, over time, given harvest levels of other land owners and based on assumptions about product markets. Historical trends and assumptions about the share of harvest by other landowners were used to project the share of future harvest to be met by the Tongass National Forest.

PNW conducted multiple in-person data collection visits to Southeast Alaska during the summer and fall of 2014. Specifically, Daniels interviewed the State of Alaska's Division of Forestry, AMHT, and Sealaska Corporation. Meetings where conducted with the following non-federal landowners:

Date	Entity	Contact	Location	Also Attending
6/20/14	State of Alaska, Division of Forestry	Clarence Clark, Forester	Ketchikan, AK	Su Alexander, USFS
9/15/14	Sealaska Corporation	Jim Tuttle, Operations Manager	Juneau, AK	Clarence Clark, SOA
9/15/14	Alaska Mental Health Trust	Paul Slenkamp, Forester	Ketchikan, AK	Clarence Clark, SOA

During this time period, Daniels also met with members of the timber industry and the Alaska Forest Association (AFA) while visiting Prince of Wales Island. Furthermore, Daniels maintained open communication with entities as she progressed through data collection and methodology development – answering questions and accepting additional input.

Daniels, et al. (2016) developed projections for State and Native Corporation harvest as part of the baseline and three scenarios, representing alternative futures, as part of the overall demand study. State and Native Corporation harvest varied by scenario, based on underlying assumptions. Based on historic trends, Daniels, et al. assumed all Native Corporation timber harvest would be exported as unprocessed round logs, with no timber expected to be available

for local processing. For State lands, including Division of Forestry, University of Alaska, and AMHT, Daniels, et al. assumed 70 percent of timber harvest would be exported as unprocessed round wood, with the remaining 30 percent processed in Southeast Alaska.

Daniels, et al. projected that timber demand from the Tongass National Forest, over the course of the next 15 years, will range from 46 MMBF to 70 MMBF. Three different scenarios represent alternative futures for Southeast Alaska, all incorporating the transition of the Tongass National Forest's timber program. Notably, 46 MMBF is represented in both PNW's baseline and all three scenarios at different points in time. It was considered a conservative estimate of the overall timber demand, and remains the lower end of the overall range of timber demand per PNW's final conclusions. Daniels, et al. informed the Responsible Officials (first former Forest Supervisor, Forrest Cole, followed by the current Forest Supervisor, Earl Stewart) and the interdisciplinary team IDT at critical junctures of the forest planning process.

The PNW planning cycle timber demand projections are used as inputs to the implementation of the Morse Methodology, which ensures annual timber sale offerings are consistent with market demand, current market conditions, and sawmill processing capacity. Of particular importance to this objection issue, the Forest Service will continue to evaluate annual market demand using the Morse Methodology, and may adjust the volume or mix of old- and young-growth timber, annually made available for sale, as needed to meet market demand and the intent of the Secretary's Memorandum [#1044-009] to expedite the transition of the timber program while maintaining a viable industry.

Of related importance, the TAC did not recommend a specific timber volume figure in its final recommendations, but rather presented a range supported by individual members (46 MMBF to 70 MMBF) [Amended Plan, Appendix B, p. 13]. Furthermore, information presented in the FEIS and the presence of non-federal landowners on the TAC demonstrates that non-federal landowners have been involved in the Plan Amendment process, and that their views have been considered through the PNW data collection and TAC deliberations.

This objection issue was directly discussed in the Response to Comments section of the FEIS [FEIS, Volume II, Appendix I]. See the Response to Comments MKD-9 [p. I-158] and MKD-12 [p. I-159]. Additional related information was presented in the responses to MKD-17 [p. I-162], MKD-20 [p. I-163], and MKD-27 [p. I-167]. The planning record also includes an important document detailing the Tongass National Forest's decision to proceed with 46 MMBF for forest planning purposes [see *Tongass National Forest: Forest Plan Amendment, Projected Timber Demand, and Decision Points* (Grewe, 2016), PR #769_01172].

See my responses to Issues ES 6 and ES 8, below, for further discussion of the market demand issue. See also my response to Issue TANC 1, above, for discussion of the Tribal and Alaska Native Corporation consultation process for the Amended Plan.

Conclusion

Based on my review of the FEIS, Draft ROD, Daniel's, et al. demand study, and other information in the planning record, I believe an appropriate level of data collection and analysis was carried out to support the Plan Amendment decision-making process. While objectors

contend the PNW's projections set forth in the Daniel's, et al. report do not accurately project non-federal timber harvest levels, I believe the report considered the best available information, and the planning record indicates that Daniels, et al. provided opportunity for other landowners and the forest products industry to provide information and input during the early stages of the overall market demand research.

While I believe the planning record fully supports the Draft ROD and Amended Plan with regard to the market demand information used in the analysis, I recognize the continued external interest in market demand and the factors that were considered in the Tongass demand estimates. As discussed below in response to Issues ES 6 and ES 8, I also recognize that there are past and present changing circumstances that could affect market demand (such as the Sealaska land conveyance and the proposed AMHT land exchange, as well as Sealaska's recent announcements that they intend to reduce their rate of annual harvest). Therefore, to ensure that the assumptions included in the market demand analyzes are validated as the Tongass moves forward with the Amended Plan, I am directing the Responsible Official to implement an aggressive monitoring program to compare actual timber harvest with the Daniels, et al. projected timber harvest, and make any needed changes in the annual Tongass offer levels via the adopted Morse Methodology. Similar to the management approach I have directed to review young-growth inventory information, I am directing the Responsible Official to add a management approach to the Amended Plan and Final ROD, committing the Forest to 1) monitoring harvest over the next five years, beginning at the effective date of the 2016 Plan, including a consideration of any constraints (such as litigation) on that harvest; 2) monitoring data related to the other assumptions relied on in the Daniels, et al. report; and 3) reporting on any different or unexpected information than that used in the EIS and whether any differences are significant enough to warrant further review in another plan amendment.

The Forest Service already has a process in place for addressing new information in the NEPA handbook [FSH 1909.15, Chapter 10, Section 18.1]. However, the Responsible Official will commit to this review in the Final ROD, identify the timeframe for that review, and provide the opportunity for public and agency review of the information.

Market Demand

Issue ES 6: Objectors contend the Daniels, et al. demand report and the Morse Methodology, as modified by the Daniels report, did not accurately analyze the market demand for Tongass timber, and because of this flawed analysis, the Forest Service will fail to provide a supply of timber that meets (or even seeks to meet) the demand for Tongass timber on an annual or planning cycle basis. Objectors also contend there is no current market for young growth, and the EIS failed to explain how a market will be developed. For these reasons, objectors contend the Draft ROD failed to adequately consider important aspects of the market demand issue, rendering it arbitrary and capricious in violation of NEPA, TTRA, and NFMA. Objectors further contend the Amended Plan will not meet the purpose and need to maintain a viable timber industry. Specifically, objectors contend:

- Reliance on past harvest levels as an indicator of current demand was erroneous and the analysis did not take into account the effects of factors such as litigation that have artificially depressed timber harvest levels. Absent constraints on timber supply, actual historic harvest levels would have been much higher, and evidence shows that the demand level is much higher than the supply (testimony of a Viking Lumber representative related to the Big Thorne Timber Sale lawsuit);
- The Forest Service's demand projections overestimated the amount of timber available for harvest from private and State lands, further reducing the volume of Tongass timber needed to meet market demand;
- The demand study did not differentiate between the demand for old growth and the demand for young growth, and the characteristics of these logs are distinctly different and should be treated differently. The Draft ROD also admitted that there is currently no market demand for large volumes of young growth logs, especially for small logs from 55-year old stands, yet the Amended Plan did not include any contingency for the industry in the event that a speculative market does not appear;
- None of the alternatives provide sufficient quantities of old growth to meet the demands of the old-growth dependent timber industry;
- The proposed transition from old growth to young growth over a 15-year time period relied on the belief that mills will re-tool, but the industry can't risk financing a major investment in new equipment when there is no known market for young-growth timber;
- The Forest Service reduced the most recent estimate of demand from 142 MMBF to 46 MMBF, artificially capping the demand at 46 MMBF, and provided no opportunity to meet future increases in market demand for timber. This, combined with the rapid transition from old-growth to young-growth timber, will not preserve a viable timber industry; and
- There was no recognition of Sealaska's indicated demand of approximately 20 MMBF per year of Tongass National Forest timber.

Objector(s): Alaska Power & Telephone Company (Objection #0006)
Jim Clark & Frank Murkowski (Objection #0008)
Ketchikan Chamber of Commerce (Objection #0013)
Resource Development Council (Objection #0018)
City of Wrangell (Objection #0021)
Alaska Miners Association (Objection #0031)
First Things First Alaska Foundation (Objection #0009)
Hyak Mining (Objection #0020)
Ketchikan Gateway Borough (Objection #0050)
Sealaska Corporation (Objection #0029)
George Woodbury (Objection #0012)
Alaska Forest Association (Objection #0027)
State of Alaska (Objection #0035)

Response

The debate concerning market demand for Tongass National Forest timber, and how the timber program relates to market demand, has been ongoing for decades. PNW completed its first study of the issue in 1990. Later that year, Congress enacted TTRA, which included a provision stating, among other things, that the Secretary shall, to the extent consistent with providing for the multiple use and sustained yield of all renewable forest resources, seek to provide a supply of timber from the Tongass National Forest that (1) meets annual market demand for timber from such forest, and (2) meets market demand from such forest for each planning cycle.

The 1997 Forest Plan ROD committed the Forest Service to developing procedures to ensure that annual timber sale offerings are consistent with implementing TTRA's "seek to meet" market demand language. Those procedures were completed in 2000, and have become known as the "Morse Methodology" – named after the author, Kathleen Morse. The Morse Methodology established a system that seeks to build and maintain a sufficient volume of timber under contract to allow the industry to react promptly to market fluctuations. Industry activities, including annual harvest levels, are monitored and timber program targets are developed by estimating the amount of timber needed to replace volume harvested from year to year. The Morse Methodology is adaptive – if harvest levels drop below expectations and other factors remain constant, future timber sale offerings would also be reduced to levels needed to maintain the target level of volume under contract. Conversely, if harvest levels unexpectedly rise, future timber sale offerings would also increase to ensure the inventory of volume under contract is not exhausted.

In short, the Forest Service adopted the Morse Methodology as the means by which the agency complies year-to-year with the annual demand component of TTRA's "seek to meet" requirement. Similarly, the agency complies with the requirement to seek to meet demand "for each planning cycle" through a series of annual applications of the Morse Methodology. Utilization of the Morse Methodology is an example of adaptive management because it addresses uncertainty in a flexible, but science-based manner.

During the past 25 years, PNW has published five studies in support of Tongass National Forest land management planning that estimate the derived demand for Tongass timber. The procedures developed by Morse to estimate the annual timber offer levels (supply) incorporate demand estimates from the PNW studies as one of several inputs in the annual calculation. In short, the PNW derived demand projections are long-term trend projections. The Morse Methodology incorporates these derived demand projections into an annual calculation of timber sale offer levels.

The Forest Service requested an update of the timber demand assessment (the long-term projection) from PNW to inform the Tongass Plan Amendment effort. New timber demand projections were also needed to accommodate changes in forest policy regarding Tongass National Forest timber harvest, land ownership adjustments, the export policy, and profile of foreign log demand. PNW published new demand projections [Daniels et al., 2016, PR #769_01365] in support of the current Plan Amendment effort, identifying a baseline

deterministic model and three future scenarios representing alternative futures for Southeast Alaska's forest products industry – the transition to young growth, growing wood energy markets, and a rebound in the domestic housing market.

The baseline model utilizes historical datasets necessary to represent Southeast Alaska timber markets, and assumes the Southeast Alaska timber industry will remain at post-2008 recession levels for the next 15 years. In the baseline model, 46 MMBF represents the annual average timber demand for Tongass timber over the next 15 years, with a range of 41 MMBF to 52 MMBF during the same time period. As the Plan Amendment IDT began the amendment process and focused on timber market demand, 46 MMBF was used to inform timber objectives required by the forest planning process. Notably, the 46 MMBF projection is not only represented in the baseline model, but it is also represented in all three scenarios at different points in time, and these scenarios represent alternative futures for timber harvest in Southeast Alaska.

Approximately one dozen objectors share the same concern - namely, they contend PNW's long-term timber demand report (Daniels et al., 2016), in combination with application of the Morse Methodology, does not accurately represent market demand for Tongass National Forest timber. Therefore, they contend the Forest Service will fail to meet TTRA requirements to seek to meet timber demand on an annual or planning cycle basis. This was a topic objectors on both sides of the issue [see also Issue ES 8, below] requested to discuss at the objection resolution meeting, and it was added to the agenda as requested [see my discussion about what I heard at the meeting, below, in the conclusion statement of this issue].

The PNW used economic theory and a peer-reviewed methodology to project demand for Tongass National Forest timber in an objective and scientific manner. Forest economists collected data, developed a methodology, made assumptions, and provided final conclusions regarding alternative futures for the Southeast Alaska forest products industry. They incorporated the best available scientific information to develop final conclusions, including a range of possibilities, regarding future Tongass National Forest timber demand. Their long-term timber demand projections (planning cycle demand projections) are incorporated into annual timber sale planning via the Morse Methodology.

The FEIS [Volume II, Appendix G] discloses the information and process for meeting TTRA's seek to meet provision, using both PNW's planning cycle demand projections and the Morse Methodology. Furthermore, *Tongass National Forest: Forest Plan Amendment, Projected Timber Demand, and Decision Points* [Grewe, 2016, PR #769_01172] further discloses how the Forest used the PNW data, analysis, and results in the Plan Amendment planning process and decision-making.

One of the common themes in the objections contending that the Daniels et al. timber demand projections are too low is the reliance on past harvest levels, across multiple landownerships, as an indicator of timber demand. Objectors contend this is an erroneous approach to projecting future timber demand. Of particular concern is a perceived over-inflation of projected timber harvest from non-federal landowners, including primarily the State of Alaska and Sealaska Corporation. The 2012 Planning Rule requires the use of the best available scientific

information to inform forest planning and decision-making, and the Rule [at 36 CFR § 219.3] requires the Responsible Official to document how this information was used to inform the plan decision. In compliance with the Rule, the Draft ROD discusses the use of the best available scientific information, with specific narrative regarding PNW's contribution to the forest planning process [Draft ROD, pp. 32 – 33]. The Draft ROD also includes an extensive discussion of market demand and the use of the Daniels, et al. and other PNW demand studies [pp. 24-29].

Forest Service policy provides that the Responsible Official shall focus on evaluating available, relevant information for a plan amendment [FSH 1909.12, Chapter 20, Section 212]. The terms "available" and "relevant" are further defined in FSH 1909.12, Chapter 10, Section 11:

> The term "available" means that the information is currently and readily accessible by the Forest Service in a form useful for the planning process without further data collection, modification, or validation. If no available information exists for the topic areas described in 36 CFR 219.6(b), there is no requirement to begin new studies to acquire or develop such information.
>
> The term "relevant" means the information must have a demonstrable relationship to the required topics and to the land management plan.

See my response to Issue ES 5, above, for further discussion as to whether the Forest overestimated the supply of timber from non-federal lands.

Conclusion

Based on my review of the planning record, especially the Daniel's et al. report, I believe the PNW used an appropriate level of data collection and analysis in its estimates of the long-term demand for Tongass National Forest Timber, and this information was the best available information. The planning record indicates that Daniels, et al. provided opportunity for landowners and the forest products industry to provide information and input during early stages of the overall research project. Of noteworthy importance, the selected 46 MMBF projected timber sale quantity is within the range of timber demand projections by Daniels et al. I believe the demand estimates are based on the best available information, and are adequate to support forest planning and decision-making.

As discussed above, market demand continues to be a controversial issue on the Tongass, as evidenced in the objections received on both sides of the issue and the interest expressed in discussing this topic at the objection resolution meeting. At that meeting, it was evident that objectors on both sides continue to feel very strongly about this issue. It was also very evident that there is no common ground with regard to market demand and the process the Tongass National Forest follows to be responsive to market demand.

As discussed above in response to Issue ES 5, while I believe the planning record fully supports the Draft ROD and Amended Plan with regard to the market demand information used in the analysis, because of the continued external interest in market demand and the factors that were considered in the Tongass demand estimates, as well as past and present changing circumstances that could affect market demand (such as the Sealaska land conveyance and the proposed AMHT

land exchange), I am directing the Responsible Official to implement an aggressive monitoring program to compare actual timber harvest with Daniels et al. projected timber harvest, and make any needed changes via the Morse Methodology. Similar to the management approach I have directed to review young growth inventory information, I am directing the Responsible Official to add a management approach to the Amended Plan committing the Forest to 1) monitoring harvest over the next five years, beginning at the effective date of the 2016 Plan, including a consideration of any constraints (such as litigation) on that harvest; 2) monitoring data related to the other assumptions relied on in the Daniels, et al. report; and 3) reporting on any different or unexpected information than that used in the EIS and whether or not any differences are significant enough to warrant further review in another plan amendment.

The Forest Service already has a process for addressing new information in the NEPA handbook [FSH 1909.15, Chapter 10, Section 18.1]. However, the Responsible Official will commit to this review in the Final ROD, identify the timeframe for that review, and provide the opportunity for public and agency review of the information.

Issue ES 7: Objectors contend the Amended Plan does not solve basic problems that make it impossible for the Forest Service to offer economic timber sales, such as the constraints on timber sales due to roadless area designations and to address appeals, lawsuits, and ecosystem management that have affected the economics of timber sales. Specifically, objectors contend:

- Costs are added to timber sales that should be charged to the multiple use being served;
- The volume offered in any given timber sale should be enough to amortize the costs of any associated and necessary road construction;
- The Forest Service did not analyze the effects of transition, particularly whether the available timber is economic and if there is enough to provide for a sustainable viable industry; and
- The Roadless Rule is another reason why the Forest Service is not able to offer economic timber sales, and the roaded areas within IRAs that no longer have roadless area characteristics should be included in the suitable timber base.

Objector(s): George Woodbury (Objection #0012)

Response

Objector contends that the Amended Plan does not solve the issues that, from objector's perspective, make it impossible for economic timber sales to be offered, including roadless area designations, litigation, and ecosystem management. With respect to designated roadless areas on the Tongass, see my responses to Issues ROAD 2 and ROAD 3, above. The 2001 Roadless Rule remains in effect in Alaska, and the Amended Plan appropriately considers and applies the designations on the Tongass. Modifying those designations would require agency rulemaking.

Litigation is acknowledged as one of the factors leading to the need for change in the management of the Tongass, and the FEIS acknowledges that individual timber sale litigation since 2008 has hindered the ability of the Forest to provide a reliable timber supply [FEIS, pp. 1-4, 1-5]. While the transition to young-growth management may ultimately reduce the controversy associated with the harvest of old growth, the threat of litigation may continue. The complexity of litigation varies, and quantifying agency resources that may be necessary to address future litigation associated with specific timber sale offerings is speculative. Moreover, the project-level, pre-decisional administrative review process at 36 C.F.R. Part 218, which is also known as an objection process, reflects an agency effort to avoid litigation through resolution of issues, potentially reducing future agency litigation costs.

While objector's concern about ecosystem management is not clear, the laws that apply to the creation and management of the National Forest System provide broad authority to preserve, protect, and administer NFS lands and resources [see, for example, Organic Act, MUSYA, and NFMA]. As stated in the 2012 Planning Rule, land management plans guide sustainable, integrated management of the resources within the plan area in the context of the broader landscape, giving due consideration to the relative values of the various resources in particular areas [36 C.F.R. § 219.1(b)]. Plans guide management of NFS lands so that they are ecologically sustainable and contribute to social and economic sustainability; consist of ecosystems and watersheds with ecological integrity and diverse plan and animal communities; and have the capacity to provide people and communities with ecosystems services and multiple uses that provide a range of social, economic, and ecological benefits for the present and into the future [36 C.F.R. § 219.1(c)]. Ecosystem management is well within the authority granted by Congress to the Forest Service.

Lastly, objector implies that costs are added to timber sales that should be charged to the multiple use being served, and that the volume in any given timber sale should be enough to amortize the costs of any associated and necessary road construction. The R10 Supplement to FSH 2409.22 provides direction for the residual value appraisal process for determining timber values and costs directly related to the harvest of specific timber sales, including what, if any, road costs may be considered. This process does not allow factoring in costs that are not directly associated with timber harvest for the appraised sale.

Regarding the FEIS analysis of providing economic timber to sustain a viable industry, see my response to Issue TM 4, above.

Conclusion

I believe the Amended Plan and FEIS appropriately considered the identified constraints to providing economic timber sales, recognizing the challenges of designing efficient timber sale offerings while meeting requirements for protecting and sustaining other resource values.

Issue ES 8: Objectors contend the Amended Plan is based on an inflated projection of market demand, and that the Forest Service wrongly used this inflated projection (46 MMBF) for all alternatives. They contend this unlawful restriction of the range of alternatives considered in the EIS misrepresented the jobs and economic benefits of logging, leading to wasteful expenditure of federal resources on timber sales. Specifically, objectors contend:

- Market demand projections concluded that a 42-year trend of declining timber market demand will reverse and start growing again, based on misleading economic assumptions about the overall domestic share of global timber markets and a constant market share of federal timber from Southeast Alaska;
- The Forest Service is unable to find a substantial volume of timber to offer that will appraise positively because timber values are low relative to the costs of logging on the Tongass. The result is an increase in the volume offered that will likely be subject to export (up to 100 percent of all sales in 2016);
- The Forest Service objective to offer an average annual volume of 46 MMBF was not tied to market demand;
- The Daniels demand study overestimated demand, resulting in the Morse Methodology generating projected harvest levels that are too high; and
- The 2012 Planning Rule at 36 C.F.R. § 219.8 requires the Forest Service to ensure that the PTSQ is economically sustainable.

Objector(s): Earthjustice, et al. (Objection #0039)
Trout Unlimited (Objection #0036)
GSACC, et al. (Objection #0042)

Response

There are many extenuating circumstances, unrelated to market demand for forest products, that affect actual timber harvest, including administrative review delays, litigation, agency budgets, and other administrative challenges. Observed declines in timber harvest should not supplant the use of economic theory and peer-reviewed methodology to project demand for Tongass National Forest timber in an objective and scientific manner.

During the past 25 years, PNW has published several studies in support of Tongass National Forest land management planning that estimate the derived demand for Southeast Alaska timber, including Brooks and Haynes (1990, 1994, 1997), Brackley, et al. (2006a), and Daniels, et al. (2016). Daniels, et al. is the fifth analysis performed since 1990 to assist forest planners in meeting statutory requirements for estimating planning cycle demand for timber from the Tongass National Forest.

Projections of Alaska timber products outputs, the derived demand for logs, lumber, residues, and niche projects, and timber harvest by owner are developed using trend-based projections. "Derived demand," in the PNW analyses, is defined as the volume of NFS harvest needed to meet the projected consumption of Alaska forest products, over time, given harvest levels of other owners and based on assumptions about product markets. Similar to prior studies, Daniels, et al. estimated the demand for Tongass National Forest timber using a materials balance

approach based on forecasted trends in product markets. Projected harvest from the Tongass National Forest is calculated as the volume of timber required to meet the shortfall between projected demand and harvest from other ownerships, primarily Native Corporation and State of Alaska lands. Alternatively stated, the derived demand for Tongass National Forest timber is computed as the residual – the quantity of NFS timber required to balance the market.

Demand for Tongass National Forest timber depends on the final markets supplied by Alaska forest products. PNW identified all markets receiving Alaska wood products, including utility logs, softwood lumber, mill residue, and other niche products. Additional information was gathered regarding the production, shipments, and relative scale of markets served. This information was combined with projections of total wood product consumption (for domestic markets) or imports in destination regions to arrive at the share of the market supplied by Southeast Alaska timber production. Historic market data was collected and assessed for each product market, including softwood log exports, domestic log market, utility logs, lumber, and other products.

PNW then developed a baseline model based on the assumption that the industry in Southeast Alaska would remain at post-2008 recession levels for the next 15 years, despite indications at the time the study was completed (summer 2015) that United States sawnwood consumption had reached levels approaching those seen during the pre-recession housing boom [Daniels, et al., (2016), PR #769_01365]. The baseline model was subsequently used to develop three scenarios representing alternative futures for timber harvest in Southeast Alaska. The first scenario (Scenario 1) assumes the transition to young growth will occur by 2025, with old-growth harvest constrained to 5 MMBF for small sales and micro-sales from that point onward. As modeled, this scenario resulted in a reduction in Pacific Rim demand for dimensional lumber from Southeast Alaska that would, in turn, cause a decline in harvest from the Tongass relative to the baseline rate. The second scenario (Scenario 2) built upon the transition modeled in Scenario 1 by adding an expansion of bioenergy markets. Scenario 3 also built on the transition modeled in Scenario 1, but assumed an increased demand for lumber from the Lower 48 states by considering only the pre-recession rate of growth in domestic lumber consumption as opposed to the more conservative growth rates used in the baseline model [Id.]. In other words, the PNW study assesses a range of potential demand scenarios that build upon a baseline model that employs conservative assumptions regarding the development of future markets. The likelihood that baseline demand will drop below post-recession levels is considered very low.

The Daniels, et al. baseline model and range of potential demand scenarios informed the planning process so that the Amended Plan's timber objectives ensure there is both sufficient old-growth "bridge timber" to allow industry to transition and also to accelerate the transition to primarily young-growth harvest. The timber objectives added to the Amended Plan integrated a projected timber sale quantity (PTSQ) of 46 MMBF, offering an average annual volume of old growth and young growth to seek to meet market demand and ensure that the 10-15 year transition is achievable.

The 2012 Planning Rule provides that plan amendments may be broad or narrow, depending on the need for change, and that the Responsible Official has the discretion to determine whether and how to amend the plan [36 C.F.R. § 219.13(a)]. The purpose and need for the specific

changes proposed to the Tongass Forest Plan did not result in applying all the substantive provisions of the Rule, including the sustainability provisions of 36 C.F.R. § 219.8. See my response to Issue NFMA 5, above, for a discussion of what provisions of the Rule do apply. However, the use of the Daniels, et al. study as a basis for identifying the PTSQ of the Amended Plan is not contrary to the economic sustainability provisions of the 2012 Planning Rule.

This PTSQ is the annualized average amount of timber expected to be sold over a ten-year period in order to seek to meet current planning-cycle demand projections. The Amended Plan integrates this annualized average as a timber objective [p. 5-13], but the Forest will continue to evaluate and "seek to meet" annual market demand using the Morse Methodology, which ensures annual timber sale offerings are consistent with market demand, current market conditions, and sawmill processing capacity. The Forest may adjust the volume or mix of old- and young-growth timber, annually made available for sale, as needed to meet market demand and the intent of the Secretary's Memorandum [#1044-009] to expedite the transition of the timber program while maintaining a viable industry.

The transition to young-growth harvest should stabilize the supply of timber available from the Tongass to the local forest products industry, enabling the industry to plan with greater confidence and lower risk, resulting in greater economic sustainability of the industry and Southeast Alaska.

Conclusion

As discussed above in response to issue ES 6, I believe the demand estimates are based on the best available information, and are adequate to support forest planning and decision-making.

Market demand continues to be a controversial issue on the Tongass, as evidenced in the objections I received on both sides of the issue and the interest expressed in discussing this topic at the objection resolution meeting. At that meeting, it was evident that objectors on both sides continue to feel very strongly about this issue. It was also very evident that there is no common ground with regard to market demand and the process the Tongass National Forest follows to be responsive to market demand.

As discussed above in response to Issues ES 5 and ES 6, while I believe the planning record fully supports the Draft ROD and Amended Plan with regard to the market demand information used in the analysis, because of the continued external interest in market demand and the factors that were considered in the Tongass demand estimates, as well as past and present changing circumstances that could affect market demand (such as the Sealaska land conveyance and the proposed AMHT land exchange), I am directing the Responsible Official to implement an aggressive monitoring program to compare actual timber harvest with Daniels et al. projected timber harvest, and make any needed changes via the Morse Methodology. Similar to the management approach I have directed to review young growth inventory information, I am directing the Responsible Official to add a management approach to the Amended Plan committing the Forest to 1) monitoring harvest over the next five years, beginning at the effective date of the 2016 Plan, including a consideration of any constraints (such as litigation)

on that harvest; 2) monitoring data related to the other assumptions relied on in the Daniels, et al. report; and 3) reporting on any different or unexpected information than that used in the EIS and whether or not any differences are significant enough to warrant further review in another plan amendment.

The Forest Service already has a process for addressing new information in the NEPA handbook [FSH 1909.15, Chapter 10, Section 18.1]. However, the Responsible Official will commit to this review in the Final ROD, identify the timeframe for that review, and provide the opportunity for public and agency review of the information.

Instructions to the Responsible Official

Based on my review of the Plan Amendment FEIS, Draft ROD, Amended Plan, the final TAC recommendations, and the planning record, I believe the record supports the Responsible Official's decision on the Amended Plan with regard to all of the issues raised in the eligible objections.

As discussed in various sections of this response, I have identified instructions to the Responsible Official that I believe will correct some technical errors in the FEIS and Amended Plan; clarify the intent of the Amended Plan; and/or provide more clarity on the Tongass National Forest's commitment to implementing the Amended Plan in a way that will ensure that the goals of the transition to a more ecologically, socially, and economically sustainable forest management program on the Forest are met in a way that preserves the exceptional natural resources of the Forest and supports the economic and cultural well-being of the communities of Southeast Alaska.

By copy of this response, the Responsible Official is instructed to complete the following tasks prior to signing the Final ROD for the Tongass Plan Amendment:

1) Provide rationale for why he believes Alternative 4 is the environmentally preferable alternative in the Final ROD for the Amended Plan.
2) Update the discussion of the proposed Alaska Mental Health Trust land exchange in the Final ROD to acknowledge that legislation has been introduced, but not yet passed (or otherwise acknowledge the status of the legislation if the bill does pass before he signs the Final ROD).
3) Provide greater clarity in the Amended Plan and/or in the Final ROD regarding the intended long-term management of the Tongass 77 Watersheds and Audubon/TNC Conservation Priority Areas. This could be accomplished by:
    a. Adding a more thorough explanation to the Amended Plan and/or the Final ROD regarding how these lands will be managed when they overlap with Development, and/or Non-Development LUDs; and/or

b. Adding a more thorough explanation to the Amended Plan and/or the Final ROD regarding how the long-term management of these areas will be determined, based on the findings of the study of the effects of young-growth harvest in these areas on fish and wildlife populations referenced in the Draft ROD and FEIS.

4) Clearly specify the version of the Southeast Alaska Transportation Plan referenced in the Transportation Systems Corridors direction and any FEIS maps that identify the location of the corridors.

5) Correct page 4-65 of the Amended Plan to include Alaska Native Corporations in the list of entities to be given notice of Tongass National Forest projects or activities that may significantly restrict subsistence uses.

6) Correct the Draft ROD map to clearly show that any National Forest System lands within the Geologic Special Interest Areas (SIAs) that are outside the new LUD II management areas resulting from the Sealaska Lands Act will continue to be managed in accordance with Geologic SIA direction. Ensure that the SIA layer and the ROD map properly reflect the remaining Geologic SIA lands and the North Prince of Wales, Western Kosciusko, and Eastern Kosciusko Conservation Area LUD II management areas.

7) Correct, through an errata, the EIS discussion of "LUD Changes Common to the Action Alternatives" [pp. 2-9 to 2-10] to identify the 1,465.16 acres of Geologic SIA acreage that were transferred to Sealaska and the addition of the new LUD II management areas.

8) Correct, through an errata, the discussion about the Sealaska Lands Act [p. 3-31 of the FEIS] to state that "land ownership of approximately 1,465 acres of the Geologic [SIAs] was transferred to the Sealaska Corporation" in place of the current statement that "land ownership of some of the Geologic [SIAs] was transferred to the Sealaska Corporation." This information is in the planning record (in the GIS layers), and is further documented in Attachment B#, which I am directing the Responsible Official to add to the planning record [see Item 20, below].

9) Include language in the Final ROD that better acknowledges the gaps in stream data information, yet clarifies that the water and watershed effects analyses in the FEIS considered the general relationship among and between the alternatives and that adding any additional stream data would not change the order of those relationships.

10) Acknowledge the Southeast Conference Report and Section 601 of Public Law 106-511, supporting an intertie system in Southeast Alaska, in the Final ROD, and clarify their relationship to the Amended Plan.

11) Add a commitment to the Final ROD to produce a report that documents the results of the ongoing inventory work under the Challenge Cost Share Agreement with State and Private Forestry and the State of Alaska, and to make this report available to industry stakeholders and the public for review.

12) Correct the inconsistencies between the language in the Draft ROD [p. 5, paragraph 3], the language in the Amended Plan [pp. 5-5 to 5-8, specifically S-YG-Beach-01, S-YG-KC-02, S-YG-RIP-01 and S-YG-Wild-01], and the language in the FEIS [p. 2-34, paragraph 1 and p. 3-344, paragraph 5] regarding the amount of harvest allowed in the beach and estuary fringe, riparian management areas, and Old-Growth Habitat LUD.

13) Post the current draft five-year timber sale schedule on the external Tongass web page, consistent with past practices, by December 31, 2016. This schedule should be updated and posted annually by December 31st of each year.

14) Add a management approach to the Amended Plan indicating that the five-year timber sale schedule will be updated and posted annually by December 31st of each year, so that this commitment can be appropriately tracked and monitored.

15) Correct the statement in the Draft ROD [p. 29] that "timber sales must be offered so long as there is a demand for Tongass timber" to acknowledge that the Forest Service's actions in response to the Tongass Timber Reform Act's "seek to meet" direction must be consistent with and provide for the multiple use and sustained yield of all renewable forest resources and are subject to appropriations, other applicable law, and the requirements of the National Forest Management Act.

16) Correct, through an errata, the footnoting associated with Table 3.22-17 and Figures 3.22-17 and 3.22-18 [FEIS, pp.3-517, 3-518] to clarify that Table 3.22-17 represents discounted 5-year total net revenues and Figures 3.22-17 and 3.22-18 represent non-discounted annual average totals in 5-year increments.

17) Add a management approach to the Amended Plan and Final ROD, identifying the Forest's intent to:

    a) monitor harvest over the next five years, beginning at the effective date of the 2016 Amended Plan, and consider any constraints (such as litigation) on that harvest;

    b) monitor data related to the assumptions relied on in the Daniels, et al. report;

    c) report on any different or unexpected information identified through monitoring than that considered in the analysis for the Plan Amendment EIS, and consider whether any differences are significant enough to warrant further review in another plan amendment; and

    d) identify the timeframe for this report, and provide the opportunity for public and agency review of the information.

18) Consider the "no net loss" concept as the Forest monitors the effectiveness of the Amended Plan's components.

19) Ensure that the most recent version of the *Frequently Asked Questions Regarding Inventoried Roadless Areas* is in the planning record for the Amended Plan.

20) Add the documents identified in Appendix B of this response to the planning record for the Amended Plan if they are not already included in that record.

Once the Responsible Official has complied with these instructions, he may proceed with signing the Final ROD for the Plan Amendment [36 CFR § 219.58]. The Responsible Official's decision will be noticed in accordance with the public notification requirements of the 2012 Planning Rule at 36 CFR § 219.16.

Tongass Plan Amendment Objections
List of Eligible Objectors

CARA #	Objection Tracking #	Name/Organization
1	16-10-00-0006	Alaska Power and Telephone, Robert Grimm
2	16-10-00-0007	Alcan Forest Products & Evergreen Timber, Eric Nichols
3	16-10-00-0008	Jim Clark & Frank Murkowski
5	16-10-00-0012	George Woodbury
6	16-10-00-0010	GEOS Institute, Dominick DellaSala
9	16-10-00-0013	Ketchikan Chamber of Commerce, William Swift
10	16-10-00-0015	Margo Waring
11	16-10-00-0018	Resource Development Council, Carl Portman
14	16-10-00-0021	City & Borough of Wrangell, Jeff Jabusch
16	16-10-00-0027	Alaska Forest Association & SE Conference, Owen Graham
17	16-10-00-0032	Alaska Wilderness League, Kristen Miller
19	16-10-00-0031	Alaska Miners Association, Deantha Crockett
20	16-10-00-0041	Audubon Alaska, Susan Culliney
21	16-10-00-0034	Defenders of Wildlife, Patrick Lavin
23	16-10-00-0039	Earthjustice, et al., Holly Harris
24	16-10-00-0043	Eric Lee
25	16-10-00-0042	GSACC et al., Larry Edwards
27	16-10-00-0040	Southeast Alaska Conservation Council, Meredith Trainor
28	16-10-00-0036	Trout Unlimited, Austin Williams
29	16-10-00-0044	Natural Resources Defense Council, Niel Lawrence
30	16-10-00-0037	Sitka Conservation Society, Andrew Thoms
31	16-10-00-0035	State of Alaska, Andrew Mack
32	16-10-00-0029	Sealaska Corporation, Anthony Mallott
33	16-10-00-0009	First Things First Alaska Foundation, Neil MacKinnon
35	16-10-00-0030	Trust Land Office, John Morrison
38	16-10-00-0020	Hyak Mining Company, Neil MacKinnon
46	16-10-00-0050	Ketchikan Gateway Borough, David Landis

Tongass National Forest Plan Amendment Response to Objections: Documents to be Added to Planning Record				
Attachment #	**Date**	**Original File Names**	**Document Title or Summary**	**Author**
B1	6/30/2015	Challenege_cost-share-agreement_06302015.pdf	Agreement #15-CS-11100106-809, Challenge Cost Share Agreement between the Alaska Division of Forestry and State and Private Forestry	USDA Forest Service
B2	5/6/2016	FSL YG_Briefing Paper_5_6_16_ final.docx	PNW Research Briefing Paper, Southeast Alaska Young-Growth Wood Quality Study	E. Lowell & M. McClellan
B3	2011	HecetaCommThinStudyPlan.pdf	Heceta Island Commercial Thinning Study Plan, Integrated Resource Timber Sale Contract and Area Map	Nicholson
B4	Aug. & Sept., 2015	BigBuckTimberSale.pdf	Contract documents for the Big Buck Timber Sale on the Thorne Bay Ranger District, TNF	USDA Forest Service
B5	July, 2013	NewsRelease_Vilsack_TNF_TransitioningSecondGrowth.pdf	USDA News Release, Secretary Vilsack Announces Steps to Conserve 17-million Acre Tongass National Forest by Transitioning to Sustainable, Second Growth Forest Management	USDA Office of Communications
B6	12/18/2014	CEQsEffectiveUseOfProgrammatic_NEPAreviews_FinalDec14.pdf	Executive Office of the President, Council on Environmental Quality CEQ, Effective Use of Programmatic NEPA Reviews	Michael Boots
B7	7/10/2015	StateVs.USDA_071015.pdf	*State of Alaska, et. al. v. USDA, et. al.* , Case #1:11-cv-01122-RJL, Federal Defendant's Cross Motion for Summary Judgement	Barclay Samford
B8	11/4/2016	SIA_Karst_BaichtalEmail_110416.pdf	Explanation of using corrected GIS layers in order to update the Kosciusko, Calder and El Capitan Karst Vulnerability Maps (attached)	Baichtal & Primaky
B9	1/20/2010	ClimateChangeConsiderations_in_LandMgmtPlan_rev012010.pdf	Climate Change Considerations in Land Management Plan Revisions	
B10	1/13/2009	ClimateChangeConsiderations_in_ProjectLevelNEPA_011309.pdf	Climate Change Considerations in Project Level NEPA Analysis	
B11	2015	Damore_Carbon Balance Young Growth_2015.pdf	Carbon Balance and Management article entitled: Carbon accretion in unthinned and thinned young-growth forest stands of the Alaskan perhumid coastal temperate rainforest	D'Amore, Oken, Herendeen, Steel & Hennon
B12	1994	Wood-Chip-Heating-Guide.pdf	Revised 2004, Biomass Energy Resource Center, Wood-Chip Heating Systems, A Guide for Institutional and Commercial Biomass Installations	Timothy Maker
B13	Undated	Nussbaumer_Paper.pdf	Characterization of particles from wood combustion with respect to health relevance and electrostatic precipitation	Dr. Thomas Nussbaumer
B14	January, 2011	NYSERDA Low-Emissions-Wood-Heating.pdf	Getting There, High-Efficiency and Low-Emissions Wood Heating	Nathan Russell & Ellen Burkhardt

Tongass National Forest Plan Amendment Response to Objections: Documents to be Added to Planning Record				
Attachment #	**Date**	**Original File Names**	**Document Title or Summary**	**Author**
B15	2012-2013	SE AK Community Energy Inventory v1.0.pdf	Southeast Alaska Energy Demand, A Draft Inventory of Electricity, Space Heating, and Transportation Fuel Demand in 26 Communities, Prepared for JEDC	
B16	June, 2016	Southeast Energy Update.pdf	Southeast Alaska Energy Update and Profile, Prepared for Alaska Energy Authority	McDowell Group
B17	2014	FPL_FuelValueCalculator.pdf	FS Forest Products Lab Fuel Value Calculator, 2014	Knaebe
B18	9/23/2013	Hemphill R10 Second Growth Logging Cost Models 2013Sept.pdf	DRAFT Second-Growth Logging Cost Models	Dallas Hemphill
B19	3/13/2007	Dir_to_RF_appraisals_interstate_shipments.doc	Timber Sale Appraisals and Limited Interstate Shipments of Unprocessed Sitka Spruce and Western Hemlock Timber	Daniel Castillo, Director of Forest Management (Retired)
B20	2/20/2007	Appraisal_market_analysis_2_20.doc	Forest Service, Region 10 Timber Market Analysis of the Effects of Export and Interstate Commerce on Timber Sale Value and Volume	Robert Housely, Ken Vaughan & Susan Alexander
B21	5/29/2007	ExhibitA_ImpactOnIndicatedBidValueOfLimitedInterstateShipments.doc	Impact on Indicated Advertised Value of Limited Interstate Shipments of Unprocessed Sitka Spruce and Western Hemlock Timber	Robert Housely, Ken Vaughan & Susan Alexander
B22	Undated	Exhibit B_jobs and income range.pdf	Appendix for the Timber Economics Resource Report, Navy DEIS, Employment Adjustments Considering Interstate Shipment	USDA Forest Service
B23	April, 2013	Understanding_Goshawk_Smith_2013_Detail.pdf	Spatially explicit analysis of contributions of a regional conservation strategy toward sustaining northern goshawk habitat	Winston Smith
B24	April, 2013	Understanding_Goshawk_Smith_2013_Executive.pdf	Executive summary of Attachment B23	Winston Smith
B25	8/1/2016	Final_GHG_guidance_2016_08_01.pdf	Executive Office of the President, Council on Environmental Quality CEQ, Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews	Christina Goldfuss
B26	9/14/2011	WO_1909.15_20.pdf	Forest Service Handbook (FSH) 1909.15 - National Environmental Policy Act Handbook, Chapter 20 - Environmental Impact Statements and Related Documents	USDA Forest Service
B27	10/8/2015	Report (FPS Calibration) 2015-10-08 Letter.pdf	Letter from Landvest to Sealaska about follow-up calibration work related to FPS	David Walters & Ben Rice
B28	10/6/2015	Report (FPS Calibration) 2015-10-08.pdf	Attached report to Attachment B27, An evaluation and calibration of FPS Growth and Yield Model for Southeast Alaska	
B29	4/20/2014	FPS Species Library Calibration.pdf	FPS Species Library Calibration, Region 20 - SE Alaska	

Tongass National Forest Plan Amendment Response to Objections: Documents to be Added to Planning Record				
Attachment #	**Date**	**Original File Names**	**Document Title or Summary**	**Author**
B30	1/29/2010	Site Classification Tongass.pdf	Site Productivity Classification from Soil, Climate and Topographic Parameters, A Stratified Distribution of FIA Site Measurements Across the Tongass National Forest	James Arney, Forest Biometrics Research Institute
B31	12/15/2010	Establishment of the Tongass Inventory Database.pdf	Forest Biometrics Research Institute, Establishment of the Tongass Inventory Database, Vegetation Model for the Tongass National Forest	James Arney, Forest Biometrics Research Institute
B32	12/10/2015	HaywardEtAl.pdf	Climate change vulnerability assessment for the Chugach National Forest and the Kenai Peninsula	Hayward, Colt, McTeague, Hollingsworth