



United States
Department of
Agriculture

Forest
Service

Washington Office

14th & Independence SW
P.O. Box 96090
Washington, DC 20090-6090

File Code: 2620-1

Date: September 24, 2003

Route To:

Subject: Watershed, Fish, Wildlife, Air, and Rare Plants Staff Comments on the Sierra Nevada Forest Plan Amendment Draft Supplemental Environmental Impact Statement Statement

To: Kathleen Morse, Interdisciplinary Team Leader

I want to clear up confusion that has occurred from my September 12 letter and enclosed comments regarding the Sierra Nevada Forest Plan Amendment Draft Supplemental Environmental Impact Statement.

These comments were intended to be an internal Forest Service staff to staff communication for your consideration as you go through your deliberations for the final document. The perspectives and suggestions were not coordinated with other Washington Office staff and should not be considered agency policy or direction. A number of the comments related to subjects outside the specific expertise of the staff community. Please consider and weigh these comments with the other information you have to make your final decisions, as you deem appropriate.

I apologize for any confusion that resulted from my earlier letter.

/s/ James T. Gladen
JAMES T. GLADEN
Director, Watershed, Fish, Wildlife, Air, and Rare Plants

cc: Kathleen Clement, William LeVere, Dave Gibbons





United States
Department of
Agriculture

Forest
Service

Washington Office

14th & Independence SW
P.O. Box 96090
Washington, DC 20090-6090

File Code: 2620-1

Date: September 12, 2003

Route To:

Subject: Watershed, Fish, Wildlife, Air and Rare Plants Staff Comments on the Sierra Nevada Forest Plan Amendment Draft Supplemental Environmental Impact Statement

To: Kathleen Morse, Interdisciplinary Team Leader

Thank you for giving our staff the opportunity to review and comment on the Sierra Nevada Forest Plan Amendment Draft Supplemental Environmental Impact Statement. We recognize that you want this effort to be scientifically sound, ecologically sustainable and legally sufficient, and we are offering our comments to help you meet that goal.

As a result of our review, we offer the following suggestions for your consideration in the development of the final EIS.

- Improve the description of the proposed action, including identification of the costs and magnitude of associated activities, including road construction;
- Improve the discussion of how the “new information” forms a sufficient basis for the revision.
- Provide descriptions of the effects of the preferred alternative on social values and economic benefits of activities and uses other than timber harvest and grazing;
- Provide a monitoring strategy to support the proposed adaptive management model, to insure implementation of a scientifically credible and consistent monitoring program;
- Improve the effects analysis and disclosure, including cumulative effects, particularly related to the spotted owl, willow flycatcher and other sensitive species and for aquatic and riparian habitats and species;

Our detailed comments on these and other aspects of the draft document are enclosed. We would be glad to discuss any of these comments in more depth.

/s/ Deanna Stouder, acting for
JAMES T. GLADEN
Director, Watershed, Fish, Wildlife, Air, and Rare Plants

Enclosure

cc:
Dave Gibbons, Director, Ecosystem Conservation, Region 5
William Levere, Director, Biophysical Resources, Region 4



WO - WFW Staff

Comments on Sierra Nevada Forest Plan Amendment Draft Supplemental Environmental Impact Statement

September 12, 2003

Purpose and Need - New Information and Chanted Circumstances

The DSEIS does not appear to provide sufficient detail to support the "new information" cited as the reason for this revision. An example of this is the characterization of the Fish and Wildlife Service finding on the California spotted owl as "new information", when, in fact, that finding was based on implementation of conservation measures included in the Framework. Another example is the characterization of potential impacts to range permittees as "new information" when it was previously analyzed and disclosed in the 2001 FEIS and ROD. Other examples follow.

The Purpose and Need cites new information about circumstances surrounding the use and availability of owl habitat on private lands (DSEIS, p. 2), specifically citing the California Forest Practices Act which requires private industrial timberlands to be managed in a sustainable manner. This "new information" necessitates consideration of the contribution of private lands to the cumulative effects analysis of suitable owl habitat. Consideration of the Environmental Effects of the proposed action on the California Spotted Owl (pages 182-198) fails to mention or consider this "new information". If this is indeed 'new information' not considered in the SNFPA, and it is to be considered in the SFEIS, then the DSEIS should also consider that the Act requires forestry sustainability, not owl habitat sustainability, and that it relates to industrial timberlands and may not apply to private non-industrial lands. It is difficult for the reader to understand, though, why the California Forest Practices Act is being described as "new information". The Act. has been in place since 1973. It was amended in 1995 to require owners of substantial holdings of timberlands to develop ten-year sustained yield plans, consistent with an ecosystem approach to land management, to be approved and enforced by the State (SNFPA Review: Part 1: Assessing the Need for Change, March 2003). This information was available at the time the Framework FEIS was developed and the ROD signed.

The presence of new information relative to certain species, including the Yosemite toad and willow flycatcher, is alluded to in several places in the document, and forms a basis for the stated purpose and need, yet there is no clear description of any new information. The changes to willow flycatcher direction were made primarily so that management could "respond to highly variable site-specific conditions across the Sierra Nevada bioregion". This could be said about all resources in the Sierra Nevada and is hardly a condition unique to flycatcher habitat. The variability in systems was discussed in the framework. No new information is provided in the DSEIS to indicate that this variability represents a changed condition.

New information was cited for aquatic, riparian and meadow ecosystems, but it was not adequately described in the DSEIS. The information on the effects of the aquatic, riparian and meadow management strategy on grazing was fully disclosed in the Framework FEIS and ROD. Some information on riparian and aquatic species is new to the extent that it clearly affirms the continued decline of these species identified in the Framework FEIS. Changing the management strategy for these systems in a manner which increases the risk does not represent new information, but rather a policy decision to accept great risk in the decision.

The Purpose and Need states that there is 'new information' in the form of the 'National Fire Plan'. However, there is scant discussion regarding what this new information is and clearly no discussion of how the SNFPA is inconsistent with the National Fire Plan. Thus the new information relative to the National Fire Plan is unclear. The Summary (page 4) alludes to the need for more 'effective' treatments to achieve the goals of the National Fire Plan, however, there is no discussion of how treatments applied under the SNFPA have been implemented on the ground, and have been scientifically evaluated to conclude that implemented treatments have been ineffective in achieving fire and fuel objectives.

The consistency of the 2001 Framework decision with the National Fire Plan and the Cohesive Strategy was evaluated and upheld by the Chief as part of the appeal decision issued by the Chief on November 16, 2001. This appeal decision included a statement about the broad local discretion provided by the standards and guidelines, and the consistency of the scale and pace of fuel treatments with the National Fire Plan and Cohesive Strategy. The current document does not build a convincing case that that appeal decision was in error and that the Framework needs to be substantially altered to "achieve consistency with the National Fire Plan" (DEIS, p. 1; pp. 29-30). In light of this, the finalization of the implementation plan for the National Fire Plan does not appear to represent "new information".

The Purpose and Need fails to mention a significant new section on Forest Ecosystem Health -specifically response of vegetation to climate change, drought, insects, and pathogens (page 87). This is not one of the 5 original 'problem areas' for which the SNFPA was developed, and which were provided to the public for input during scoping. This is significant as it relates to needed treatment of a large amount of acres. This appears to be a new issue which should have been presented to the public during scoping.

The DSEIS does not adequately articulate how the preferred alternative addresses all elements of the stated purpose and need, particularly those aspects related to old forest, aquatic, riparian and meadow ecosystems, and associated species (pp. 28-29). These aspects appear to take on a lessened importance in this document, compared with achieving narrowly focused economic and social objectives. An example of this is apparent in the summary table comparing alternatives, on page 23, from the choice of consequences which are displayed. Effects on aquatic, riparian and meadow ecosystems and species at risk are not shown.

Description of Preferred Alternative

The "restoration" discussion needs to more clearly distinguish between fuels treatment/forest restructuring and restoring ecological integrity. While the document alludes to ecosystem

restoration, the only action being proposed is fuels treatment. It is confusing to characterize this as ecological restoration. Ecological restoration involves more than forest structure, and can include a wide variety of objectives and management techniques, such as actions which restore fine-scale habitat elements, promote reestablishment of ecological processes and functions within the range of natural variability, or reduce impacts of non-native invasive species.

The road system necessary to implement the preferred alternative needs to be clearly described (i.e. the number of miles of new road, etc) and the effects of developing and maintaining the system needs to be analyzed in this document. The current roads analysis is inadequate.

Monitoring: There is an underlying assumption in the DSEIS that the monitoring required for adaptive management will be accomplished. One of the principal reasons the Framework FEIS and ROD elevated monitoring and inventory work to Forest Plan levels was to address past inconsistencies in monitoring efforts and to improve performance. The lack of detail in the DSEIS regarding monitoring make it is difficult to assess the potential for success of the stated adaptive management approach in the preferred alternative. For example, grazing restrictions in rare species habitats seem to be essentially removed or diminished in S2, and replaced, in part, with a stated intent to monitor impacts. Monitoring does not provide habitat and conserve species, it only provides information. The document also needs to describe how compliance with the monitoring requirements of the 1982 NFMA regulations will be achieved.

The preferred alternative appears to replace many of the standards that were put in place by the original plan to provide for conservation of species, with only a vague commitment to monitor effects. This excerpt from Chapter 4 (pg 174) serves as an appropriate example: "Although Alternative 2 has the potential to degrade denning habitat [for fisher] across the SSFCA, the potential is tempered by the Sequoia and Sierra National Forest's awareness of and involvement in fisher research."

Because of the importance of monitoring to the adaptive management model in the SDEIS and lack of any specific monitoring commitment, we recommend that the monitoring approach outlined in Appendix E of the FEIS be included as part of this supplement.

Considering Risk and Uncertainty in the Decision

This section of the DSEIS, (pp. 33-38) provides an unclear discussion of uncertainty and risk relative to our ability to identify short-term and longterm effects. We agree that the uncertainty inherent in any decision involving highly complex ecosystems cannot be eliminated. Nor does the public appear to expect such certainty. And the characterization of risk by the identification of potential stressors, the probability that those stressors will occur, and the likely adverse effects if they occur (p. 35) is accurate, as is the conclusion that choices about acceptable threshold levels of risk are neither objective nor purely scientific (p. 36). However, the conclusion stated in the DSEIS that outcomes are not scientifically predictable, and that the only "important short-term risks facing the Forest Service are related to decision processes, not ecological outcomes" (p. 36) is not supported by the evidence provided in the DSEIS, and is contradicted by the data and analyses in the Framework FEIS and the SNEP reports. Concluding that "in the short-term, none of the vegetation models or fire projections shows a significant difference in ecological

outcomes" (p. 36) is a reflection of the inadequacies of the effects analysis, and is not supported by previous analyses.

One of the key premises is that scientific uncertainty is often expressed as a calculated or estimated confidence interval around a predicted value or outcome (Page 34). The DSEIS does not follow this premise because it fails to provide any estimate of variability or confidence around any model outputs reported in the Environmental Consequences. The Modeling section does not address confidence intervals around any modeled estimates. This is a significant omission because of the numerous variables in each model (each with an associated error), the number of different and imbedded models and the artifact of compounding errors. The DSEIS presents model outputs in all Environmental Consequences as absolute values. This is clearly not the case and presents misleading information to the public without assigning any confidence (statistical error) to these numbers.

The discussion of Risk and Uncertainty continues with the statement that "detailed characterizations of uncertainty are likely to be difficult to understand and present, and consequently may not be useful to the public or to decision makers" (Page 35). This statement is incorrect. Such display of uncertainty is necessary to inform both the public and decision maker of the quality of the data and information upon which a decision is based. A model output with a coefficient of variation of 5-10% provides a reasonable level of confidence, one with a CV 100% is little better than a guess. The SDEIS aptly acknowledges that the longer the timeframe of model projections - from 20 to 130 years- the less reliable the outputs. Given the uncertainty of model outputs and no expression of variability, the effects analysis should not focus solely on these projections but also consider what forest structure remains after treatment and consider, in essence also consider "what we leave" rather than "what we remove" from the land..

There are numerous examples in the SDEIS where effects to species from "short-term risks" are not addressed. For example, the analysis of habitat structure for owls and other key species at the 20 year mark and then the 100 year plus mark is important, but it is also necessary to analyze the potential of species and populations to remain present or to be able to repopulate areas through periods of habitat disturbance. A primary component missing from the habitat evaluation is an evaluation of how the activities will potentially affect the retention of species while their habitat is being "improved". Spatially extensive short-term risk can have long term negative impacts even though in the long term habitat structure is potentially "improved". This needs to be discussed in the document.

Effects Analysis

Economics of Fuel Treatments: In the presentation of information on the economics of fuel treatments, page 165, it is not clear if all operating costs have been in the treatment costs and net product value estimates. Only differential costs for slope and elevation are discussed. In particular, given that S2 will be theoretically treating more acres, have the costs for road construction and maintenance been factored into the economic estimates?

Furthermore, this section is somewhat inconsistent with the Summary section that highlights the greater economic efficiency of S2 and the opportunity to treat more acres for hazardous fuel

reductions. However, here more acres are not being treated (Table 4.2.4.b) but rather there is an annual average cost savings of \$27 million due to increased efficiency. A demonstration of cost savings is not an appropriate metric and does not further the objectives of the National Fire Plan. Rather than a cost savings, increased efficiency should be characterized by an increase (2-3 times more in S2) in the number of acres that can be treated given an appropriated budget. Conversely, if the SDEIS continues to show the same number of acres treated, the SDEIS should show the costs of achieving the acres treated in Table 4.2.4b - approximately 1.59 million acres; S 1 should be 2-3 times more expensive than S2.

Fire Intensity: The SDEIS is unclear in its treatment of burned acres and fire intensity. "Using historic fire data and recent trends, the FEIS projected habitat losses at 68,000 acres per year over the next decade. At this rate old forest habitat is burning up faster than it can be replaced" (Page 29). The SDEIS aptly describes the concept of fire intensity - non-lethal, mixed-lethal, and lethal (page 104). Importantly, wildfires only 1/4 to 1/2 of the acres are lethal (Table 3.1.2c, page 105), suggesting that 1/2 to 3/4 of the acres are beneficial and nonlethal contributing to historic fire patterns and processes. Thus the key message is that not all acres burned are 'acres lost' to fire. It is unclear whether this concept is carried through both the discussion of Environmental Consequences and Modeling (Appendix B). For example Table 3.2.2b PAC Acres Burned, do these numbers represent total acres burned (some beneficial) or Lethal acres (habitat destroyed) burned? When 'burned acres' are discussed in the SDEIS, it should be made clear whether these are total acres burned, or "lethal acres burned". Referring to burned acres as total burned acres - rather than lethal burned acres overestimates the impact of fire on ecological systems and mischaracterizes the threat of wildfire to old forest and associated species.

Effects of Fuels Reduction Standards: There needs to be a clear discussion of the rationale for and the ecological effects of the changes and additions to the fuel reduction standards, particularly height to live crown base height, flame length, and minimum and maximum fuel loads, including how these changes affect the economic efficiency of treatments. Many of these changes and additions represent substantial increases in the amount of material being removed from a treated area, with a correspondingly higher level of disturbance, so it is reasonable to expect both higher treatment costs and increases in ecological effects for Alternative S2, compared with Alternative S 1.

Fire: The role of climate in the extent and severity of wild fire is not discussed. This creates a tone in the document that treatment has a high probability of solving the wildfire problem. If there is evidence that, unlike other areas in the western US, climate does not play a large role in the potential for wildfires, then that should be fully referenced in the document. Also "restoring historic fire regimes" is mentioned several times but the linkage between this goal and the preferred alternative is not made.

It is also not evident that the fire modeling or the environmental consequences discusses the effects of wider canopy spacing after fuel treatments and the probability of future fires. The SNEP report indicated that wider canopy spacing permits increased light in the understory to enhance growth of understory vegetation and contributes to drying out fuels. Both of these factors increase risk of wildfire. Both of these factors should be addressed as a consequence of the increased canopy closure permitted in S2 compared to SI (35% to 50%).

Economic analysis: The economic analysis is insufficient, as there is a more diverse economy in the Sierra Nevada than the timber and grazing based economy. Given the activities proposed by the preferred alternative, a discussion of the economic impacts on fish and wildlife-based tourism, recreation, and the other economic sectors needs to be provided. Grazing and timber were shown to be relatively minor parts of the economy by SNEP scientists.

Fragmentation: The WUI defense and threat zone in the DSEIS is 2,420,674 acres, occupying 21.12% of the Forest landscape and over 30% of the landscape on 4 Forests (Eldorado, Tahoe, LTBMU and Sequoia). Calculating from Table 3.1.2a, this equates to approximately 2600 miles of a 1.5-mile wide combination of defense and threat zone. This is described as being managed to effectively protect communities and structures from fire. However, the environmental consequences of developing and maintaining this WI need to be fully discussed and disclosed. It is difficult to believe that if these treatments are effectively implemented, there will not be significant effects on water quality, sediment production, delivery and routing, riparian environments and habitat fragmentation. It would also be reasonable to display the WUI system on a map so that the public can see the full extent of the system, and its pattern on the landscape.

Effects of changes in grazing direction: The changes in grazing direction in the new alternatives need to be clearly analyzed in relation to the potential impact on riparian environments, streams, fisheries, amphibians, willow flycatcher and meadow ecosystems, rather than just describing effects to the grazing program or permittees. The document needs to discuss the definition of "low", "medium" and "high" impact to permittees as that is apparently an important part of the basis for changing management direction.

OHV's: There are multiple examples in the DSEIS in which OHVs are identified as threats to rare species, yet (on page 259, Appendix A) OHV Standards/Guides are relaxed. The basis for these changes needs to be disclosed, along with the environmental effects.

Cumulative Effects: The cumulative effects analysis in this document needs to be improved. The discussion of the cumulative effects of this proposal on the identified "problem areas" and other "proposals" is one aspect of a cumulative effects analysis, but it does not satisfy the requirement to analyze cumulative effects to the environment.

The combination of the effects of WUI, splats, and other treatments of Federal and non-Federal lands need to be analyzed in a cumulative effects analysis. The cumulative effects analyses need to disclose the potential effects of this proposal when added to other past present and future activities or proposals. The document seems only to focus on the effects of this proposal "on" other proposals, not what is intended by NEPA for a cumulative effects analysis. It is not enough to merely say there will be no cumulative effects or that the effects will be within the range discussed in the framework. This document needs to discuss the effects of the activities on the environment. This would include effects on the riparian and stream environments, fisheries, listed species, water quality and quantity, sediment, and habitat fragmentation.

The DSEIS pushes most of the analysis requirements down to the project level (as indicated in the Rationale section, page 175), which will have the effect of confounding cumulative effects

analyses. This should be a significant concern for the Forests of the Sierra Nevada. The original SNFP document emphasized being able to conduct analyses across boundaries and the importance of addressing cumulative effects. This is a major change that is not explicitly shown in the DSEIS.

Aquatic and Riparian: There needs to be a discussion of the effects of the new alternatives on riparian ecosystems, streams and fisheries. It is not sufficient to dismiss these effects as within the range of impacts discussed in the framework them without further analysis, given the activities proposed in Alternative S2. If the treatments will be sufficient to have their intended effect, there is a high likelihood that there will be significant and measurable direct, indirect and cumulative effects on the environment, which need to be analyzed and disclosed in this document.

In the section "Meadow Ecosystems" (page 56), what really is being addressed is the forage production aspect of those ecosystems. Maintaining forage production is very different from maintaining meadow ecosystems. This section needs to be expanded to discuss the components and processes of these ecosystems, and the effects to species habitats.

An analysis of effects that merely uses "higher" and "lower" as descriptors is not adequate for describing effects. An environmental baseline needs to be described so that the reader can understand the environmental consequences of the proposal when added to the baseline. Merely comparing the alternatives to each other and referring to effects as "higher" or "lower" provides no basis for understanding the consequences to ecological processes or functions or to species and their habitats.

The SNEP findings on the present status of riparian and aquatic systems is misrepresented in the document (p. 3 Summary). While downstream resources are affected by dams, diversions, agriculture, etc., SNEP did not imply that the systems on forest lands were in good shape; only that the downstream segments were in worse shape. This is an important component of the environmental baseline and it is misleading in this document to portray current condition as somehow improved from the findings in SNEP, unless data are provided to justify the new condition status.

Willow Flycatcher: The discussion of environmental consequences relative to willow flycatcher does not adequately reflect the increased risk (relative to S1) of S2 toward maintaining habitat to sustain willow flycatcher populations. Management standards to conserve willow flycatcher habitat in S2 have been reduced (increased risk to flycatchers) in 3 ways relative to S2. Late season grazing in occupied sites may begin after August 15, fifteen days sooner than S1 and possibly within the active nesting season - potentially disrupting active nests. Alternative S2 also allows exemptions to grazing exclusions in occupied meadows to be waived if a site specific management plan is developed. While grazing exclusion provides some measure of certainty to remove adverse affects of grazing, it is nearly impossible to assess the effects of special 'management plans' without assurances of development by qualified individuals and a commitment to monitoring to determine if objectives are being achieved. The S2 Standard does not specify either of these actions. Finally, surveys of emphasis habitat in S3 is only triggered during project planning - which may occur in 5-10 or more years, potentially placing flycatchers

that may be present at continued risk, unlike Alternative S 1 that requires emphasis habitat to be surveyed within 3 years. Alternative S2 also just adds any new locations to the 4-year survey protocol without explicit modification of grazing management for occupied sites and does not specifically conserve potential new habitat for species recovery.

The Environmental Consequences discussion is inadequate in presenting the full array of increased risk to this species in S2 relative to the 3 factors discussed above. These factors should be summarized in the environmental consequences. With the recent surveys of known willow flycatcher habitat and the limited number of sites discovered occupied, the conservation status of this species is in poorer condition that considered in the SNFPA. Specifically, "the willow flycatcher population in the Sierra has continued to seriously decline during the past 2 decades" (Page 115). Furthermore, only 11 new territories were discovered while surveying 133 emphasis meadows; the total number of territories in the demographic study has continued to decline from 63 to 37 territories in 2002; a nearly 40% decline in 5 years; and the number of territories at Perazzo Meadows has declined from 12 to 2 over the past 6 years (Page 116). This is indeed new information relevant to the SNFPA.

Finally, unlike other sections that discuss environmental consequences for individual species, the willow flycatcher does not have a summary section on Outcomes and Rationale. In this section, the risk presented by Alternative S2 should be put into context of the conservation status of the species outlined in the Affected Environment. Relaxing management standards in the three ways discussed above increases risk to this species and reduces the likelihood that Alternative S2 will provide the necessary ecological conditions to maintain self-sustaining populations of this species in the planning area.

Watershed Processes: The effects of changes in hillslope canopy cover and disturbances from vegetation manipulation on water and sediment routing, stream structure and function, stream temperature, and fisheries need to be analyzed in the document. There is no scientific basis for decoupling the hillslope from the stream and riparian system, even in cases where wide buffers are left intact. There is no basis for the implication in this document that the proposed activities will not have an effect on stream and riparian systems or that the effects will be within the range discussed in the framework. Also it is not enough to say that the effects can be determined because the treatments and intensities are designed at the project level. Even though Alternative S2 would allow significant increases in timber harvest and grazing, the effects analysis concludes that effects on aquatic resources are not changed from the Framework FEIS, because the management goals and objectives have not been changed.

Noxious Weeds: The DSEIS identifies a higher risk of increasing noxious weed spread associated with Alternative S2, yet there is little discussion about the potential short and long term consequences.

Spotted Owl: The SDEIS emphasizes the availability of 'new information' about the status and population trends of the California Spotted Owl population, primarily through revised modeling techniques, not new information. Basically, the Capture-Recapture methodology suggests a lower rate of population decline than the Matrix method used in the SNFPA (page 112). The conclusion is that while both methods show a declining trend, the rate of decline may not be as

great as suspected and the short-term risk and urgency to arrest the decline is not as urgent as suggested in the SNFPA. However, this discussion must also consider other available information relative to population trends by also presenting the census data from the Sierra NF (FEIS Vol. 3, Chapt. 3, Part 4.4, pp. 71-72) suggesting an annual rate of decline of 5.3 percent from 1990 to 1998.

The entire effects analysis relies on untested model outputs that have no expression of associated error for both 20 year and 130 years outputs. Furthermore, no data are presented for any of the analyses. The entire analysis relies on what will grow and remain in 20 and 130 years (high uncertainty), not what structure is retained and left on the land after fuel treatments (low uncertainty). This should be made clear to the reader and decision maker, and the document should disclose this uncertainty. At the very least, the contrast of "what is left on the land" after treatment under both S 1 and S2 standards should be displayed and relate these conditions to owl habitat suitability and productivity.

Conclusions that are not supported by the discussion and data in the Environmental Consequences section should be rectified. Specifically on page 193, a discussion of S2 admits that habitat will be fragmented and disrupted, limiting population interaction and isolating populations with particular concerns in the southern end of the range where existing habitat is already isolated. Then the next sentence concludes that both alternatives "appear to provide suitable environmental conditions to provide for broadly distributed habitat across the range of the species".

S2 is also misleading in stating that all of the same land allocations are used as in S 1 (Old Forest Emphasis Areas, General Forest, Home Range Core Areas, Threat Zone, Defense Zone). However, while the land allocations may be the same, the vegetation treatments permitted in S2 are virtually the same across all land allocations. Thus there is little need for land allocations in S2.

The Environmental Consequences does not fully disclose the impacts and outcomes for S2 relative to sustaining spotted owl populations. S 1 has already been documented to have the necessary land allocations vegetation management standards and guidelines that will likely support habitat to sustain viable populations of spotted owls across the Sierra Nevada. This was the finding in the SNFPA ROD that was upheld on appeal and the FWS concluded that listing the owl under the Endangered Species Act was not warranted and that the habitat protection mechanisms in the SNFPA contributed to this decision.

S2 on the other hand has vegetation management standards for treatments that do not maintain owl habitat and substantially increase the risk that self sustaining owl populations will not be maintained. Specifically,

- 40% canopy closure must be maintained in all treatments, however, up to 5% of this 'canopy' may be in lower layers consisting of 6" trees; thus the dominant overstory may be reduced to 35%. (Note - the spatial area over which this is measured is not provided). Conifer forests of 35% canopy closure are at best marginal habitat, less preferred by owls resulting in lower productivity than stands of 50% or more canopy closure (the minimum standard in S2).

- Trees under 30" may be harvested to offset operation costs to generate revenue - making large tree recruitment in the future more uncertain;
- 40% of the basal area must be retained in the largest trees (Note - the spatial area over which this is measured is not provided). In most instances this standard could likely be met by retaining all 30" trees over some undefined spatial area.
- 1 acre stands the largest trees in CWHR 6, 5M and 5D are not protected.
- QLG will be fully implemented resulting in treatment and creation of 350,000 acres of less preferred or unsuitable owl habitat.
- An additional 3.2 million acres having pest-drought forest health problems will also be subject to treatment under the same guidelines (page 193). While the analysis suggests that current budgets would only permit treatment of 1000 acres, revenue generating prescriptions following the above standards would likely be used to generate revenue to offset treatment costs resulting in substantially more than 1000 acres treated.

It is a reasonable assumption that because revenue generation is a treatment objective in S2 to generate sawtimber and biomass revenue to offset treatment costs, these stand conditions will become the minimal management objectives in all treatments to maximize economic efficiency - well beyond that necessary to obtain an effective fuels reduction treatment. This approach is fundamentally different from S1, where treatment objectives are to reduce surface and ladder fuels only to the extent necessary to meet a specific flame length and height to live crown.

Collectively, these standards in S2 provide less owl habitat conservation than the CASPO Interim Standards and Guidelines in effect since 1993. It is also over this same period that 4 demographic studies and census studies have documented owl population declines. One can only conclude that standards in S2 are a prescription for continued owl population declines. This clear contrast between S 1 and S2 must be provided to disclose effects to both the public and deciding official.

Fisher: We are concerned that the description of the environmental consequences is not consistent with the overall conclusions of effects that there is little difference between S 1 and S2, particularly for short term effects. The analysis for S2 concludes that "the short-term trade offs in current habitat quality to sustain these long-term benefits are only of great importance to fisher viability within the area of known occupancy" (DSEIS pg. 172), yet there is no clear discussion of those short-term effects to current occupied habitat quality, nor to fisher viability within the SSFCA.

The DSEIS, in the affected environment, describes recent research addressing the importance of canopy closure in fisher home range selection, with an average of 66% of home ranges having canopy closures greater than 60% (DSEIS, pg. 109, citing Zielinski et al., in prep). The range for home range selection by females was even more pronounced, with 61 to 81 % selecting for a canopy closure greater than 60%. Other recent research cited in the DSEIS showed a preference for selection of canopy closures over 60% when available, although use of areas with canopy closures down to 40% was also documented when denser stands were not available (SDEIS, pg. 110). Yet, the discussion of environment consequences states that "retention of 60% canopy closure over 60% of planning watersheds is removed under Alternative S2" (DSEIS, pg 173).

Examples of other inconsistent statements in the environmental consequences section include:

"Although Alternative S2 has the potential to degrade denning habitat across the SSFCA, this potential is tempered by the Sequoia and Sierra National Forests' awareness of and involvement in fisher research" Yet in the same section the statement is made that "Under one proposal for analyzing effects of actions similar to [those] proposed within the Kings River Demonstration Project, the average percent of mapped, occupied fisher home ranges with greater than 60% canopy closure would fall from 43% to 6%. As a research project to determine effects and provide for adaptive management, this may be acceptable over a portion of the fisher range but across the SSFCA it would greatly increase risk and uncertainty over viability of the local population" (DSEIS, pg. 174).

" This aspect of greater reliance on forest level restraint is also true for the eastside pine habitat within the SSFCA. There are no guidelines in place that would adequately protect remaining fisher habitat within this vegetation type " (DSEIS, Pg. 175).

"Although the direction in Alternative S2 does not provide the level of detail to support a high level of confidence that fisher will persist in the southern Sierra, direction in Alternative S2 is not in conflict with appropriate fisher management at the forest level because project-specific NEPA analysis should provide that certainty." (DSEIS, pp. 175).

The conclusion is made that " the environmental and population outcomes for Alternative S2 would not change significantly from Alternative S1" (DSEIS, pg. 176). This conclusion is not consistent with the analysis provided and summarized above.

Plants: The DSEIS should provide the list of 12 plant species that are "sensitive to the variation in management that would be provided by some of the alternatives." There is no indication where these species might occur, what forest types they inhabit, and to what 'management variations' the twelve are most sensitive. There is no way to evaluate the impact to sensitive plant species based on the information contained in the DSEIS.

Amount and Distribution of Old Forest: The statement is made that "the amount of large and or old trees is expected to increase in both alternatives due to restrictions on harvest of large trees" (page 150) and later "the alternatives would not differ greatly in effects on the large tree component due to decreased acres burned in the first 10 years". This conclusion and difference between S 1 and S2 should be checked and data on large trees (by diameter class) should be presented in tabular form. S2 only has a 30" diameter limit, thus trees between 20-29" inches may be harvested for commercial value to improve 'economic efficiency'. These trees also represent future recruitment to the 30"+ size class. If the 20-29" size class is available to commercial harvest and S 1 does not permit harvest of any trees over 20" (outside of defense zone), it is unclear how these alternatives could not differ greatly in the large tree component and how the number of large trees could increase in S2 when they will be subjected to commercial timber harvest, especially in the short term.

On page 149, the statement is made that S2 is projected to have approximately double the rate of reduction in acres burned annually compared to S 1; S2 would burn 4200 fewer acres than S I on an annual basis. It is unclear if this is total acres burned, independent of fire intensity or is this

acres 'destroyed' that represent 'lethal' burns. This is an important distinction to weight the merits of risks to species and old forest by more aggressive treatments that commercially harvest old forest to pay for hazardous fuel reductions. If these are total acres, then the lethal component is about 1000 acres of a reduction between S2 to S 1 for the added risk in S2 to old forest and associated species.

Table 4.3.2.2a shows "Region-wide projected acres of old growth late seral stage forest (all types) (page 181). This table is not referenced in the text and its context is unclear. However, it is an interesting graph in that the acres of old growth are nearly indistinguishable in the first and second decade and remain fairly similar up to decade 5 for S 1, S2 and No Treatment. In fact acres of old growth in S 1 are greater than S2 for the first 6 decades. First, without any estimate of confidence intervals around these model estimates (see discussion above) it is impossible to judge whether these 'absolute' differences are real or are these estimates really not difference and within the error estimates of each value. More importantly, this graph seems to refute the premise that S2 results in more acres of old growth because of the more effective fuel treatments and thus fewer acres burned, leading to more acres of old growth. This graph should be checked and clarified.

Cost Effectiveness

The Summary (page 4) discusses the need for improved treatments in a cost-efficient manner to maximize program effectiveness and the ability to 'treat more acres' through the economic value of by-products, and maximize the number of acres that can be treated under a limited budget. Furthermore, under the Proposed Action (page 5) "opportunities are also provided to allow for by-products to be generated to offset fuels treatment costs and allow more acres of hazardous fuels to be treated overall". And finally under The Alternatives (page 7, and again on page 45) "[S2] also provides mechanisms that allow fuels and forest health treatments to generate revenues through commercial forest products to increase the number of acres that can be treated with available appropriated funds".

These statements are misleading because the projected acres mechanically treated under both alternatives in the first 20 years is essentially the same: 1.566 millions acres for S 1 and 1.596 million acres for S2 t 1.5 millions acres (Summary Table page 23). Based upon the premise of improved cost-effectiveness, one would expect S2 to treat significantly more acres under a given budget through the economic value of larger trees commercially harvested under S2 that are not necessarily fuel hazards. Given that the total projected harvest volume under S2 is 3 times higher than under S1 (127 MMBF vs. 358 MMBF), one would expect that up to 3 times more acres could be treated under S2 than S 1 to realize this economic efficiency. This discrepancy between projected treated acres and claims of improved economic efficiency and revenue generation should be corrected.

Alternative S3: Although Alternative S3 is identified in Chapter 2 as one of the alternatives analyzed in detail, the analysis of this alternative in Chapter 4 is contained within a single paragraph on page 240. From a NEPA perspective, the deciding official would appear to have insufficient information to make an informed selection based on the differences between alternatives.

General comments for improving the document

Always state the time period that is being referenced - for example Table 4.2.4a is silent on time period except for the first column (past 10 year average). The "planning period" in the table title is undefined. Table 4.2.4b "Treatment Acres by allocation and type" fails to list a time period, first decade, 20-30 years or 130 years, or planning period?

Be consistent in statements. For example, the document states that at least 75% of the fuel treatments in S2 will be focused in the WUI for the first 5 years (page 149) and then on the next page the focus will be in the WUI for the first 10 years.