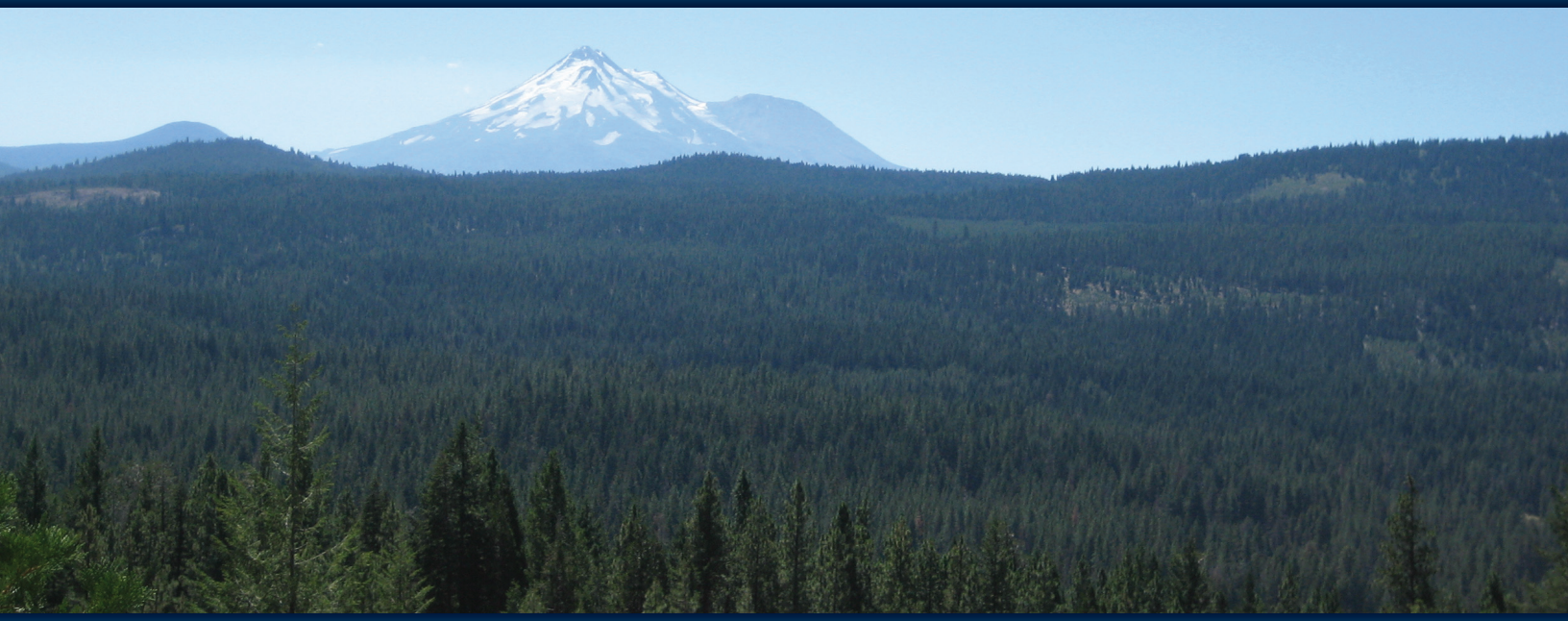
FINAL

Environmental Impact Statement for Authorization for Incidental Take and Implementation of Fruit Growers Supply Company's Multi-Species Habitat Conservation Plan



LEAD AGENCIES

NOAA National Marine Fisheries Service
United States Fish and Wildlife Service

Volume II
Appendix F: Responses to Comments

June 2012

WBG012312113656SAC

Contents

Theme Comments and Responses

Theme Comments and Responses

The Services reviewed and responded to each of the 283 public and agency comments on the Draft Environmental Impact Statement (EIS). In its review of all the public comments received on the Draft EIS and draft habitat conservation plan (HCP), the Services identified nine recurring themes, which are expressed in this introductory section. Instead of repeating their responses throughout the individual responses, the Services are responding to the themes raised by commenters in this introductory section. When individual comments can be addressed (or partially addressed) by a theme response, the individual response directs the reader to this introductory section.

Theme 1: Sustainable Forest Management and HCP Funding

Several commenters stated questions and concerns as to the applicant's ability to conduct sustainable harvest practices and to adequately implement the proposed HCP throughout the duration of the permit.

Services Response to Comments

Because the cost of the conservation program would be paid by operating revenues, the Services acknowledge that assurances of the applicant's long-term viability are necessary to successfully implement the program. Revenues would continue to be generated by operations, primarily timber harvest. As stated throughout the EIS, timber harvest under all alternatives would continue to occur consistent with the California Forest Practice Rules (CFPRs). An important part of the CFPRs is the requirement to demonstrate the "maximum sustainable production" of timber products (14 CCR Section 933.11), which essentially mandates that harvest cannot exceed growth at the ownership scale. This sustained yield requirement was not described in the Draft EIS, but it is important to acknowledge in addressing many of the comments.

Proof of sustainable long-term timber production is required by the CFPRs, and the applicant has demonstrated compliance in an "Option A" analysis on file with the California Department of Forestry and Fire Protection (CALFIRE). The current Option A analysis (dated 2007) assumes that an HCP would be implemented, but does not reflect the detailed conservation program under the Proposed Action. The applicant would be required to update its sustained yield analysis to incorporate the HCP's conservation measures restricting timber harvest after the Services complete this permit review process and issue incidental take permits (ITPs) if that is the Services' final decision.

The applicant is currently prohibited by the State of California from conducting unsustainable forestry practices, which would involve harvesting marketable trees faster than they are growing (as demonstrated by the Option A analysis); this will continue to be the case under all alternatives including the Proposed Action. As stated above, sustainable harvest of timber products and a financially solvent permittee are both necessary to successfully implement the conservation program.

To ensure that financial commitments made by the applicant are regularly evaluated and adhered to, Section 7.0 (Funding) of the Implementing Agreement requires an annual

evaluation of the applicant's ability to implement the Proposed Action. The following is language from the Implementing Agreement that outlines this process between the applicant (FGS) and the Services:

> Permittee shall submit the Yearly Expenditure Report (YER) as provided in Paragraph 8.2. Prior to commencing any activity authorized by the HCP for a calendar year, FGS must provide the YER to the Services for their review and concurrence. If either Service does not concur that the YER (1) accurately identifies Permittee's obligations under the HCP, IA and permits during the upcoming year, or (2) identifies adequate funding to carry out Permittee's obligations for that year, the parties shall meet as soon as practicable to resolve the dispute and may utilize the informal dispute resolution process provided in Section 12. If, after a period of 60 days to allow for discussion among the parties, the Services do not concur that the YER is adequate, the Services may suspend the permits in accordance with applicable regulations.

What is important to note is that every year after the ITPs are issued, the Services retain the right to suspend the permits if funding is inadequate. The Services also retain the right to ensure that all take of listed species up to the point of suspension or revocation has been mitigated to the Services' satisfaction. This process is designed to ensure that implementing the Proposed Action is an integral part of the applicant's long-term sustainable operations and to ensure that mitigation for harvesting impacts occurs on an annual basis, curtailing the possibility that take of listed species occurs for long periods of time without adequate mitigation.

In addition, Section 7.0 of the Implementing Agreement (and Section 8.3 of the HCP) requires a letter of credit as an additional form of assurance that adequate funding will be provided to implement the conservation program. The California Department of Fish and Game (DFG) will be the beneficiary of the letter of credit, and they can draw on the account, as directed by the Services, in order to pay for the costs to redress any documented non-compliance by the applicant.

Theme 2: Northern Spotted Owl

Recovery

Several commenters stated that the HCP fails to meet the Endangered Species Act (ESA) requirement to not appreciably reduce the likelihood of the survival and recovery of listed species, in this case northern spotted owls.

Services Response to Comments

The applicant's HCP is intended to contribute to the survival and recovery of the northern spotted owl, and the USFWS considered the HCP's effects on spotted owl recovery in its internal Section 7 consultation on the proposed incidental take permit. Although the bulk of conservation and recovery activities described in the "Revised Recovery Plan for the Northern Spotted Owl" (USDI FWS 2011; RRP) are focused on Federal lands, the RRP acknowledges the important role that State, private, and Tribal lands can play toward recovering the northern spotted owl. Recovery Action 14 in the RRP states: *Encourage applicants to develop Habitat Conservation Plans/Safe Harbor Agreements that are consistent with the recovery objectives.* Habitat Conservation Plans and Safe Harbor Agreements are important tools that non-Federal landowners can voluntarily use to assist in the recovery of

the spotted owl. Although HCPs authorize take of listed species, the conservation measures developed to mitigate the impact of the taking must be consistent with the recovery plan objectives. Although HCPs do not require recovery standards, voluntary Recovery Actions included in an HCP can promote recovery.

The RRP further suggests that spotted owl recovery will require conservation of occupied and high quality owl habitat to ameliorate impacts from barred owls and buffer potential declines in habitat due to climate change. This strategy is described in Recovery Action 10 – *Conserve spotted owl sites and high value habitat to provide additional demographic support to the spotted owl population.* This recovery action focuses on retention of high quality habitat and long-term occupancy and reproduction at spotted owl sites in order to bolster demographic rates in the larger landscape.

Consistent with this Recovery Plan objective, a biological objective of the HCP is to contribute to conservation and recovery of the northern spotted owl by providing demographic support to owl populations on nearby Federal lands. This objective will be accomplished through conservation of suitable habitat on the applicant's ownership within 1.3 miles of selected high conservation value activity centers, thus providing compensatory mitigation for incidental take of owls associated with other low conservation value activity centers that may occur over the term of the permit. The vast majority of activity centers within the Area of Impact (i.e. total area within the HCP Plan Area plus an additional 1.3 mile distance around the applicant's ownership) are located on Federal lands, and many of the activity centers on the applicant's lands are not likely to support northern spotted owls currently or in the long-term due to the lack of high quality habitat, thereby providing little contribution to the overall population in the region and little demographic support to activity centers on Federal lands.

The FGS HCP does not detract from the broader objectives of the RRP; it does not result in significant losses of high-quality spotted owl sites with consistent occupancy and reproduction or high-quality habitat, it contains provisions that facilitate conservation of existing higher-quality spotted owl sites associated with critical habitat, and it facilitates the potential control of barred owls. As stated in its biological opinion, the USFWS concluded that the FGS HCP is consistent with the above-described provisions of the RRP and with recovery of the northern spotted owl. The ESA findings will be made prior to issuing the ITP.

Additional information on the recovery topic is provided in the response to Theme Response 7 and Response to Comment KS Wild-10.

Impact of the Taking

Several commenters stated questions and concerns about the Proposed Action's potential effects on the local northern spotted owl population. Comments were made about the level of incidental take proposed, impact of the taking analysis, and adequacy of the mitigation strategy.

Services Response to Comments

For a detailed description of the impact of the taking analysis, please refer to Section 4.3.2 of the Final EIS, Section 6.2.1 of the HCP and the Services biological and conference opinions which analyzed the taking of covered species from the Proposed Action. This response summarizes and further explains the Services' methods.

The impact of the taking analysis for the northern spotted owl was based on the following steps: 1) establishing a baseline population within the Area of Impact, 2) calculating the conservation value of each activity center, and 3) evaluating the impacts to the local population of taking the owl(s) as requested by the applicant.

During HCP development, the number of potentially valid activity centers within the area of impact was estimated to be 82, representing up to 158 individual owls. Since recent surveys have not been conducted for most of the activity centers, the USFWS made the conservative choice to assume that each of the activity centers currently supports northern spotted owls at their highest historical reproductive status. Under the Proposed Action, the applicant is requesting incidental take of an estimated 83 spotted owls within the Area of Impact over the permit term. This estimated level of incidental take represents the maximum that could occur, and it is not likely to be this high because: (1) some historic sites are likely abandoned or occupied by a single owl and do not support owls at their highest historical reproductive status, and (2) the modification of habitat may not lead to the incidental take of all individual owls occupying those activity centers. When determining the amount and impact of take under section 7 of the Act for the biological opinion, the USFWS conducted an evaluation of the probability of occupancy at the 43 sites where take of owls is proposed because of the high uncertainty of occupancy status and ability of existing suitable habitat to support owls currently or over the long term.

The USFWS determined that 11 of the activity centers where take of owls is proposed are not likely to be occupied by spotted owls based on more recent protocol survey results and a rigorous evaluation of the amount and distribution of suitable habitat using 2009 digital orthophoto quadrangles, habitat maps generated from the 2005 northern spotted owl baseline habitat layer (see 2009 FGS HCP, Appendix A), and a Relative Habitat Suitability model (Zabel et al. 2003). The USFWS also concluded that take is not likely to occur at an additional activity center based on evaluating potential impacts of FGS activities on existing suitable habitat. Therefore, the USFWS estimated that incidental take of up to 61 northern spotted owls associated with 31 historic activity centers is likely to occur over the 50-year permit term. Again, actual take is likely to be lower because some of these historic activity centers may not be currently occupied or occupied by owl pairs. Although the Service based its estimation of take on an analysis of historic activity centers, current habitat conditions, and modeled future conditions, the Service recognizes that the take of owls will occur across the Area of Impact over the permit term and not be based solely on the current activity centers because the future location of spotted owl habitat and activity centers cannot be predicted with certainty.

Under the Proposed Action, the majority of northern spotted owls that could be incidentally taken over the permit term are from activity centers that:

- Are not in close proximity to a Critical Habitat Unit (CHU).
- Contain high amounts of private land in the core and home range.
- Have inconsistent occupancy and productivity based on historical surveys.
- Contain relatively low quality habitat based on current stand characteristics.
- Are surrounded by extensive tracts of low quality habitat, thereby providing minimal connectivity value.

These activity centers have relatively low conservation value, as determined using the Impact Evaluation Matrix (IEM) (see Response to Comment KS Wild-60). The IEM assesses the conservation value at each activity center within the Area of Impact. While "take" is quantified at the individual owl level, the IEM allows for a more accurate assessment of impacts of the taking on local and regional populations. The IEM also allows for assessment of the contribution of each activity center to the conservation and recovery of the species. If take were to occur at all 43 activity centers, there would be a corresponding reduction of 18 percent of the total conservation value of activity centers in the Area of Impact. Thus, most of the activity centers where incidental take would be authorized under the Proposed Action provide a minimal contribution to overall recovery efforts.

Maximum Extent Practicable

Several commenters stated questions about whether the Proposed Action minimizes and mitigates impacts to northern spotted owls to the maximum extent practicable, as required by the ESA.

Services Response to Comments

To mitigate the impact of the taking, the applicant would establish 24 Conservation Support Areas (CSAs), focusing primarily on activity centers with the highest conservation value, to provide demographic support to the strategy outlined in the Recovery Plan. The activity centers protected by CSAs contribute approximately 54 percent of the total conservation value of all activity centers in the Area of Impact, thus mitigating the incidental take of owls at activity centers where take would be authorized (representing 18 percent of the total conservation value) at a 3:1 ratio (54:18 percent). Activity centers in which incidental take is unlikely because of low overlap with the applicant's ownership account for an additional 28 percent of the total conservation value of all activity centers in the Area of Impact. Overall, 82 percent of the total conservation value of all activity centers in the Area of Impact would be retained and conserved under the Proposed Action (Figure 1). The Services concluded that the conservation, mitigation, and take avoidance measures as described in Chapter 5 of the HCP are rationally related to the level of take that would be authorized under the permit and minimizes and mitigates impacts to northern spotted owls to the maximum extent practicable.

In addition to the adequacy of the minimization and mitigation measures, "maximum extent practicable" also requires consideration of whether the mitigation is the maximum that can be practically implemented by the applicant (HCP Handbook, Section 7). Practicability includes consideration of the benefit to covered species that would be provided by additional economic investment (i.e., the biological value of the next increment of mitigation relative to the economic cost of implementation). The Services conducted a "benefit-cost" analysis to evaluate each activity center's conservation value compared to the applicant's "cost" in terms of the amount of acreage necessary to support the site.

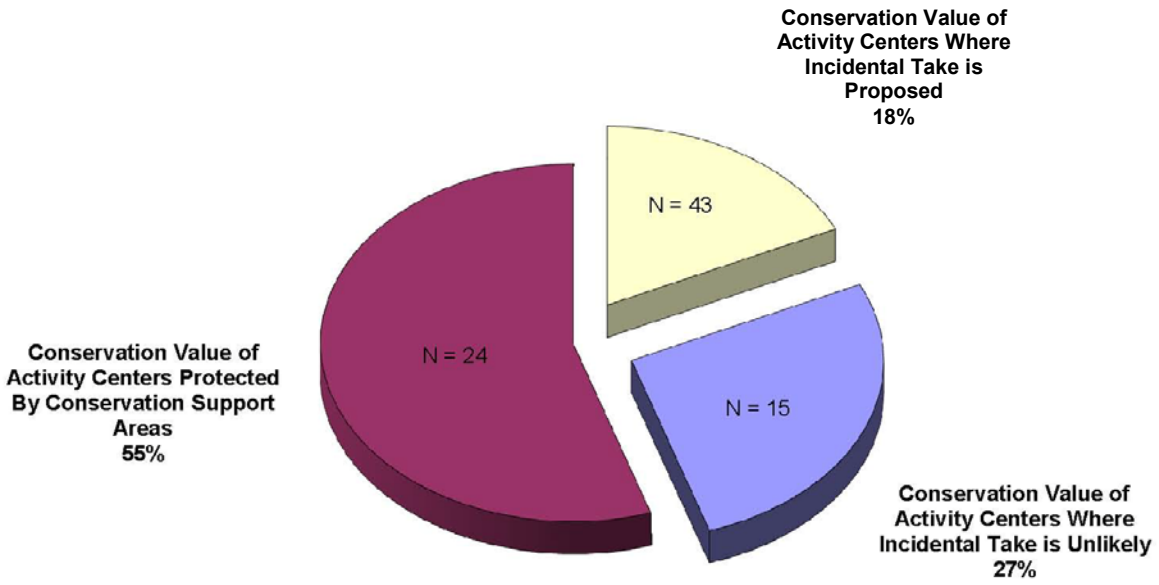


FIGURE 1
Percentage of the Total Conservation Value Contributed by Each Category of Known Activity Center in the Area of Impact. (N = number of activity centers in each category)

As shown in Figure 9-1 of the HCP, the mitigation sites generally provide the highest benefit-cost ratio (high conservation value per the applicant's acres in the home range) and that the ratio decreases rapidly once the highest value activity centers are protected. Results of this benefit-cost analysis indicate that protecting additional activity centers by establishing more CSAs would provide little additional conservation value and would entail progressively higher costs to the applicant in terms of land (acres) encumbered by harvest restrictions. Therefore, the 24 mitigation sites under the Proposed Action represent the maximum that is practicable for the applicant to implement because any additional acreage managed as CSAs around other activity centers would add little to the overall conservation value of mitigation sites and would add substantially to the economic cost of mitigation (i.e., amount of the ownership encumbered in CSA home ranges). Consistent with the Recovery Plan's expectation of private land owners to provide demographic support to spotted owls on nearby Federal lands, all but one activity center (SK262) within 0.5-mile of a CHU were designated as mitigation sites supported by CSAs under the Proposed Action. Please refer to Section 9.2.2 of the HCP for a detailed description of how the Services determined that the conservation and mitigation measures were the maximum extent practicable.

Proposed Action versus No Action Alternative

Several commenters stated that management of northern spotted owls under the current CFPRs is more protective than under the Proposed Action.

Services Response to Comments

The Services do not agree that the current CFPRs are more protective than the Proposed Action. The Proposed Action would require retention of a greater quantity and higher quality habitat within the core area and home range around owl activity centers than is currently required under the CFPRs for the following reasons.

Management of northern spotted owl sites on private lands under the current CFPRs requires 500 acres and 1,336 acres of spotted owl habitat within an activity center's 0.7-mile core and 1.3-mile home range, respectively. Harvest of suitable habitat is currently allowed within the 0.7-mile core area under the CFPRs when there is more than 500 acres of owl habitat (nesting/roosting and foraging habitat combined). The CFPRs do not specify how much of the total owl habitat within the core and home range should be nesting/roosting versus foraging habitat. Conceivably, most of the owl habitat within the core and home range could be low quality foraging habitat and harvest could be allowed under the CFPRs.

In contrast, the habitat retention standards in the CSAs under the Proposed Action to support the mitigation sites are more restrictive because, as described on pages 5-41 through 5-44 of the HCP, the applicant would not harvest within the core area of a mitigation site when there are less than 250 acres of nesting/roosting habitat and less than 150 acres of foraging habitat (400 acres total) within 0.5 mile of the activity center. The applicant also would not harvest within a mitigation site when there are less than 600 acres of nesting/roosting habitat and less than 1,050 acres of foraging habitat (1,650 acres total) within the 1.3-mile home range of the activity center. Although harvest of suitable habitat may occur within the 0.5-mile core area if these required habitat targets are met, any harvest proposed by the applicant within the CSAs would require evaluation and written approval by the USFWS.

The CFPRs also define suitable owl habitat based on the California Wildlife Habitat Relationships (CWHR) classification system, which could lead to retention of relatively low quality habitat. For example, 4D is considered suitable nesting/roosting habitat, but encompasses a broad range of tree diameters (11-24 inches diameter at breast height) and canopy cover (60-100 percent). In contrast, the habitat retention standards under the Proposed Action clearly define nesting/roosting and foraging habitat using common forest metrics such as basal area and number of trees in specific diameter classes and specify what proportion of the total amount of nesting/roosting and foraging habitat in the core area and home range will be high- and moderate-quality habitat.

Under the current CFPRs, if an activity center is determined to be unoccupied, all habitat within the home range can be removed without compensatory mitigation. The Proposed Action is an improvement over the current CFPRs because it requires habitat within CSAs to be maintained and allowed to grow into higher quality habitat throughout the permit term, regardless of occupancy status.

Another benefit of the Proposed Action compared to the No Action Alternative is that the HCP would require implementation of a comprehensive terrestrial monitoring and reporting program upon permit issuance. Components of the monitoring program include compliance monitoring to ensure the conservation measures of the terrestrial conservation program are being properly implemented, and effectiveness monitoring to ensure that biological goals and objectives related to demographic support, riparian management, dispersal habitat, incidental take minimization, and threat management are being achieved over time. Monitoring reports would be produced on regular timeframes and provided to the Services in order to evaluate whether the HCP is on target for achieving its biological goals and if not, would require the applicant and the Services to confer to address any deficiencies. Under current CFPRs, this level of monitoring and reporting is not required.

The USFWS's experience with interior California timber harvest plans (THP) indicates that the CFPRs regulating timber harvest during the 1990s did not necessarily prevent significant effects to activity centers resulting from the continual reduction of habitat quality within owl home ranges overlapping timber harvest plans. Extensive review has suggested that in many cases, the cumulative effects of repeated entries within spotted owl home ranges reduces habitat quality and leads to reduced occupancy rates and apparent site abandonment. In a large proportion of the USFWS's technical assistance letters to the CALFIRE and industrial timberland owners during the past five years, the USFWS has noted the lack of spotted owl responses at historic territories and habitat conditions considered inadequate to support continued occupancy and reproduction following repeated entries within spotted owl home ranges under the CFPRs.

Because the habitat retention standards under the Proposed Action are more restrictive and specific than the current CFPRs, harvest within the CSAs requires evaluation and written approval by the USFWS, and habitat will be maintained in the CSAs throughout the permit term regardless of occupancy status, the Services concluded that implementation of the Proposed Action would offer greater conservation benefits than under the No Action Alternative and would result in a high probability of occupancy by nesting pairs at activity centers with high conservation value, thus contributing to meeting Recovery Plan objectives.

CSA Acreage Targets are the Bare Legal Minimum

Several commenters stated that the CSA acreage targets are the bare legal minimum habitat currently required by USFWS to avoid "take."

Services Response to Comments

The assertion that the CSA acreage targets are the bare legal minimum habitat currently required by USFWS to avoid "take" is inaccurate. The CSA acreage targets are based on the guidelines contained in the "Regulatory and Scientific Basis for U.S. Fish and Wildlife Service Guidance for Evaluation of Take for Northern Spotted Owls on Private Timberlands in California's Northern Interior Region" (USFWS 2009). These USFWS guidelines are not codified regulations; the CFPRs are the only State regulatory mechanism to protect spotted owls in California. The USFWS guidelines describe a range of habitat conditions representing the central tendency of owl habitat use and do not represent the minimum habitat standards to avoid take, as suggested by the commenter.

When the CFPR owl regulations were adopted in 1992, data relating habitat variables to occupancy, reproduction, and survival of northern spotted owls were limited. As knowledge of the habitat relationships of this species increased after 1992, the USFWS increasingly made use of new scientific information to guide its evaluations of the potential for incidental take. The USFWS guidelines suggested substantial changes to the habitat thresholds considered necessary to maintain continued occupancy and reproduction at northern spotted owl territories, and were based on the accumulation of published research results, combined with the USFWS's direct field experience with management of spotted owls and their habitat. The habitat retention standards under the Proposed Action for the CSAs are based on the USFWS guidelines, and require a greater quantity and a higher quality of habitat within the home range of mitigation sites than the CFPRs (as described above) in order to promote occupancy and reproduction at these sites throughout the 50 year permit term.

Additional information on the comparison of the Proposed Action and No Action Alternative is provided in the Response to Comment KS Wild-62.

Theme 3: Biased Purpose & Need Statement and Range of Alternatives

Several commenters stated that the purpose and need statement in the Draft EIS was biased to favor the applicant's financial objectives. Commenters also stated that a strategically narrow purpose and need statement led to a limited development of alternatives.

Services Response to Comments

It is important to note that the purpose and need statement is derived from the objectives of section 10(a)(1)(B) of the Federal ESA. This section of the ESA is specifically geared towards developing a process by which a private landowner, in this case FGS, can receive authorization from the Services to take listed species in the conduct of otherwise lawful activities, in this case timber harvest. In exchange for granting this authorization, this section of the ESA requires landowners to develop an HCP that avoids, minimizes, and/or mitigates to the maximum extent practicable the take occurring from their activities. The purpose and need for the EIS addresses both intents of section 10 of the ESA and is therefore not narrowly defined, but in step with the ESA. NEPA requires that a reasonable range of alternatives that can be feasibly carried out based on technical, economic, environmental, and other factors be evaluated in the EIS. The alternatives considered in the EIS take into account both the conservation objectives for the species being considered for take authorization and the applicant's need to obtain an incidental take permit.

Theme 4: Adequacy of Analysis/Lack of Data ("Hard Look")

Several commenters state that the level of detail in the Draft EIS is insufficient to be considered a "hard look" as required by NEPA case law.

Services Response to Comments

The Services did sufficiently evaluate the potential impacts of each alternative. The Services are considering action to approve or disapprove applications for ITP in connection with a private forest landowner's (the applicant, FGS) future long term management of its 152,178 acre ownership. In evaluating the effects of issuing permits covering the owner's timberlands for a 50 year period, the Draft EIS appropriately focuses on likely impacts on those lands and the species they support at the landscape level, rather than amassing detailed information at the site-specific level. Site-specific detail will be developed for each THP, reflecting habitat conditions and species presence as they exist at the time of THP preparation. Given changes in habitat conditions and animal movement expected over the proposed 50-year term, surveys conducted at the present time would not be useful.

Another important consideration in the required level of detailed analysis is the somewhat speculative nature of projecting timber harvest activities for a private timber landowner over a 50-year period. The applicant's specific plan for annual timber harvest, now and in the future, is strongly tied to annual national and global economic conditions. When economic conditions are poor, timber values can decline rapidly resulting in significant declines in the harvest of available timber volume (e.g., costs to harvest product exceeds product market values). Therefore, site-specific detail in the EIS projecting detailed timber harvest could be obsolete shortly after permit issuance and therefore, the need for detailed survey data on species distribution and abundance was not deemed by the Services to be

necessary for a long-term permit in which harvest rates could vary widely depending upon unknown and unpredictable economic conditions and levels of timber harvest.[1] Additional detail on this topic is provided in several of the individual responses. See especially Response to Comment KS Wild-24 (regarding social and economic impacts) and KS Wild-50 (regarding cumulative impacts).

If the Proposed Action were to include a massive land use conversion (e.g., pine forest to cultivated agriculture), then additional survey work would certainly be warranted as the impacts to species dependent on these habitat types would be potentially significant as entire habitat types could be eliminated. Under the Proposed Action, the applicant would manage existing habitat types in a different manner (e.g., by designating and managing CSAs) and the level of analysis is scaled appropriately to address those changes in management.

Site-specific species evaluation and protection protocols for non-listed and State listed species is a requirement of the CFPRs. Because many of these species are mobile and will disperse throughout forested terrains, the most adequate way to address species protection is when timber harvest is proposed (i.e., when THPs are submitted to the State for review). This approach is in contrast to a long-range listed species conservation planning process which is proposed with the HCP – one approach protects (CFPRs) the other approach conserves and helps recovery (HCP). However, based on some pointed public comments and because the fisher is an ESA candidate species, the Services agree that the EIS would benefit from additional analysis for fisher. The analysis in the Draft EIS was not spatially explicit or quantitative, and relied on descriptions of general habitat trends. Since the Draft EIS was released, Zielinski et al. (2010) published a landscape-scale habitat suitability model for fisher in an area that encompasses a large portion of the planning area. The availability of the Zielinski model allowed the USFWS to conduct a more rigorous evaluation of potential effects of the Proposed Action on fisher habitat and hypothetical fisher populations relative to current conditions across the forest landscape. Based on the results of the fisher analysis, the determination in the Draft EIS that the Proposed Action would have both adverse and beneficial effects on the fisher population in and adjacent to the Plan Area relative to existing conditions and that these effects are not expected to be significant remains valid. The additional analysis is described in Response to Comment KS Wild-65. For additional information about the fisher spatial analysis, please refer to Appendix E of the Final EIS. Text summarizing the results of the fisher spatial analysis was added to the Proposed Action heading under the section on fisher in Chapter 4 (Environmental Consequences) of the Final EIS.

Theme 5: Climate Change

Several commenters stated they had concerns regarding climate change. These comments mostly addressed how climate change could modify habitat conditions for the covered species, and stated that it is unwise to issue 50-year ITPs given this uncertainty about future habitat conditions.

[1] This flexibility is built into the CFPRs. Private forest landowners have flexibility in their harvest scheduling as long as they can demonstrate long-term sustained yield (see Theme Response 1).

Services Response to Comments

The Services acknowledge that global climate change may alter habitat conditions in the plan area in the long term (see discussion in HCP Section 8.2.1). The Services have added new text to address climate change in the analysis of cumulative effects. The new text is presented in Section 5.1, Actions included in the Cumulative Effects Analysis.

The Services acknowledge that climate changes could affect the conservation programs for terrestrial and aquatic species; however we lack the scientific data to reliably predict the likely impacts of climate change on the Plan Area at this time. Focused effectiveness monitoring and reporting required under the Proposed Action would help to identify any future changes to the covered species and their habitats within the Plan Area, and it is possible that some of these changes may result from climate change (and be discernible as such; see HCP Chapter 7). The Proposed Action includes effectiveness monitoring to demonstrate that the desired habitat outcomes are realized, whether or not those outcomes are influenced by climate change. Changes in habitat conditions would become apparent as monitoring data is collected. In contrast, the comprehensive monitoring program would not occur under the No Action Alternative because there are no systematic monitoring requirements in the CFPRs. The Proposed Action also includes appropriate supplemental measures for changed circumstances that could be exacerbated by climate change (e.g., wildfires and pest infestations).

The Center for Biological Diversity offered extensive comments regarding climate change on the Draft EIS analysis, and the Services have responded to these comments individually.

Theme 6: Permit Term and Issuance of an Incidental Take Permit/No Surprises

Permit Term

Several commenters stated that they do not support the issuance of a 50-year permit term to the applicant for its timber harvest activities in Siskiyou County.

Services Response to Comments

The proposed action of issuing a 50-year permit is in direct response to what has been requested by the applicant. A 50-year permit term for an industrial timber company allows for a long-term forest management strategy and is largely based on typical rotation cycles for management of commercial timber. The permit term is linked to the typical business (i.e., resource extraction) cycle of timber operators. A shorter permit term (30 years) was considered in response to scoping comments, but was not carried forward for detailed analysis in the EIS. The reasons for not considering this alternative in detail are stated in Section 2.5.2 of the Final EIS. Additionally, 50 years is an appropriate timeframe for improved habitat conditions to develop, both in riparian areas for covered salmonid species and in CSAs for northern spotted owls. Within 50 years the Services expect to see the beneficial effects of improved riparian forest management, and habitat quality in northern spotted owl CSAs. The HCP monitoring program will help to link monitoring data to long-term conservation strategy effectiveness.

Permit Issuance

Several commenters stated their opposition to the issuance of incidental take permits that will allow for the incidental taking of listed species.

Services Response to Comments

The Services acknowledge that some members of the public oppose any issuance of permits to allow the lawful incidental take of ESA listed species. However, in 1982 the U.S. Congress amended the ESA to allow for incidental take on private lands, and the Services have a duty to implement the law in compliance with applicable issuance criteria under Section 10, their regulations, and policies. Among the most important criteria under Section 10 governing our decisions whether to issue ITPs are the requirements that the impacts of such take: 1) avoid jeopardizing the continued existence of the species; and 2) be mitigated and minimized to the maximum extent practicable. The Services will review the permit applications under these and other applicable criteria and will not issue ITPs unless the criteria are satisfied.

No Surprises

Several commenters stated that they do not support issuing an ITP with the "No Surprises Policy."

Services Response to Comments

The Final No Surprises Rule (63 Fed. Reg. 8859) (Feb. 23, 1998) promulgated by the Services:

> "….provides regulatory assurances to the holder of a Habitat Conservation Plan (HCP) incidental take permit issued under section 10(a) of the ESA that no additional land use restrictions or financial compensation will be required of the permit holder with respect to species covered by the permit, even if unforeseen circumstances arise after the permit is issued indicating that additional mitigation is needed for a given species covered by a permit."

Congress recognized that in order to provide incentives to private landowners to engage with the Services in lengthy and costly development of HCPs, landowners needed some level of assurances that the Services would not require additional commitments of land and resources down the road as long as the permittee was complying with the terms of their permit. The Final No Surprise Rule goes on to state,

> "A driving concern during the development of the policy was the absence of adequate incentives for non-Federal landowners to factor endangered species conservation into their day-to-day land management activities."

The No Surprises Rule has been upheld by the courts. In accordance with the No Surprises Rule, the HCP identifies a number of foreseeable Changed Circumstances that could occur during the permit term and includes measures to address such circumstances, thus reducing the likelihood that a circumstance that would undermine the efficacy of the HCP would occur without appropriate response. In addition, the Services note that in the event an unforeseen or any other circumstance occurs that indicates that continuation of the HCP is likely to result in jeopardy to a listed species, the Services may revoke the HCP if the applicant is unwilling or unable to put into place measures to adequately remove the jeopardy threat. These provisions of the No Surprises Rule ensure appropriate protection for the covered species. Development of an alternative that does not contain No Surprises assurance for a landowner is not consistent with the No Surprises Rule and, therefore, was not carried forward as an alternative in the Draft EIS.

Theme 7: Role of the HCP in the "Recovery" of Listed Species

Several commenters stated that they do not believe that the process to issue ITPs is consistent with the ESA in that they don't believe ITPs will result in recovery of listed species.

Services Response to Comments

In addition to Theme Response 6 above, it is important to understand how the Section 10 process relates to the "recovery" standard. As stated in Draft EIS Section 1.3, ITP issuance criteria include a finding that "the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild."

The Services agree that the goal of the ESA is to recover listed species such that listing is no longer warranted. This goal is pursued in a number of different ways in ESA implementation, including the preparation of recovery plans, designation of critical habitat, and Section 7 consultation. The Section 10 criteria to "not appreciably reduce the likelihood of survival and recovery" is not an exception to these other considerations.

With regard to northern spotted owls, critical habitat has been designated on Federal lands, and the "Revised Recovery Plan for Northern Spotted Owl" (USFWS 2011) emphasizes recovery on Federal lands with potential support from HCPs on adjacent private timberlands. As described elsewhere, the Proposed Action was crafted to support owl populations on adjacent Federal lands by designating CSAs on the applicant's property to support 24 mitigation sites. This is exactly the type of private timberland support envisioned in the Recovery Plan, as stated above in Theme Response 2. Similarly, the Proposed Action was crafted to support recovery objectives in the Recovery Plan for Yreka phlox (*Phlox hirsuta)*.

As stated in the USFWS Biological Opinion (USFWS 2012), the relative impact of the proposed taking on survival and recovery of the northern spotted owl at the regional and provincial levels is substantially reduced because the majority of activity centers where take is likely to occur exhibit low occupancy rates, poor overall habitat quality, and/or are not in close proximity to the Federal conservation reserve network. The FGS property resides in an area with checkerboard land ownership, where Federal lands constitute about 60 percent of the region and support the vast majority of activity centers with high quality habitat. In contrast, the FGS ownership contains relatively poor habitat for spotted owls due to repeated timber harvest entries into owl home ranges over the past 150 years of forest management. At many of the sites proposed for take, the amount and distribution of existing suitable habitat is not sufficient to support owls currently or in the long-term, and therefore do not substantially contribute to the Federal conservation strategy outlined in the Recovery Plan. In contrast, most of the activity centers designated as mitigation sites contribute disproportionately to overall population stability and recovery because they are more likely to support long-term occupancy and reproductive success by owl pairs, in accordance with the Recovery Plan. Consistent with the Recovery Plan, the establishment CSAs on FGS's ownership will support these 24 higher-quality spotted owl sites associated with CHUs.

Given that recent population modeling suggests that roughly 5,000 to 6,000 owl sites may currently exist (USFWS 2011) across the species range, the FWS concluded in its Biological Opinion (USFWS 2012) that the estimated level of incidental take resulting from issuance of

an ITP to FGS is not likely to jeopardize the continued existence or impede recovery of the northern spotted owl across its range because it represents a less than one percent reduction in activity centers range-wide.

With regard to salmon, the plan area includes critical habitat for Southern Oregon/Northern California Coast (SONCC) coho salmon Evolutionarily Significant Unit (ESU). A Public Review Draft of a SONCC coho Recovery Plan was released on January 5, 2012, with a comment period ending March 5, 2012. Timberland management is identified as continuing to be a threat to SONCC coho, and NMFS recommends that CFPR's be amended to improve habitat recovery in watersheds where coho and timber harvest co-exist (NMFS 2012a). Other major threats to SONCC coho in the Plan Area that need to be addressed in order to achieve recovery include major recovery impairments such as blocked access to spawning habitat and poor water quality in the Klamath River. The Proposed Action was crafted in consideration of SONCC coho salmon recovery needs, and was determined by NMFS to be superior to the No Action Alternative (see Theme Response 9 below) for all covered fish species.

NMFS's Biological and Conference Opinion (Opinion) on the proposed action of issuing an ITP to FGS and implementation of the HCP (NMFS 2012b), concludes that issuing an ITP to FGS resulting in implementation of the HCP, may result in increasing distribution of salmonids in the action area as road-related barriers are removed over time, may potentially increase the abundance and productivity of salmonids within the action area as sediment production is reduced with a road management plan improving instream sediment conditions and thus habitat quality, and is likely to result in improvements to designated critical habitat for SONCC coho within the action area, increasing its conservation value to the ESU as a whole. The Opinion concludes that issuance of an ITP to FGS and implementation of the HCP is not likely to jeopardize the continued existence of SONCC coho salmon, and is not likely to result in the destruction or adverse modification of SONCC coho salmon critical habitat. NMFS (2012b) concludes the proposed action is also not likely to jeopardize the continued existence of KMP steelhead or Upper Klamath and Trinity Rivers Chinook salmon.

Theme 8: Role of the HCP in Meeting Water Quality Standards

Several commenters stated the importance of strictly following all water quality regulations, including Total Maximum Daily Loads (TMDLs) that are expected to benefit aquatic species.

Services Response to Comments

The Services agree that these regulations must be followed, but the Proposed Action is not intended to be a mechanism for meeting water quality objectives. The integration of different permit processes (e.g., Clean Water Act implementation) is at the discretion of the applicant – the Services do not use the Section 10 process to achieve other regulatory purposes and receipt of a Section 10 permit does not absolve the applicant of its continuing duty to comply with all other applicable Federal, state and local laws. The applicant will remain subject to compliance with the North Coast Regional Water Quality Control Plans and other applicable requirements (e.g., TMDLs), and compliance will continue to be addressed by the North Coast Regional Water Quality Control Board (RWQCB) on a THP-by-THP basis. It is important to note that this case-by-case review process, consistent with

the CFPRs under all alternatives, could result in additional measures above and beyond the requirements of the HCP.

Relevant water quality standards were described in the Draft EIS (see Section 3.2.4 and Appendix A), and water quality effects were described Sections 4.1 and 4.2. The Services expect that implementation of the Proposed Action will accelerate the improvement of water quality conditions compared to the No Action Alternative (also see Theme Response 9 below).

Theme 9: Benefits of the HCP to Aquatic Species

Several commenters stated that they do not believe the Proposed Action sufficiently protects salmonids occurring in the Plan Area.

Services Response to Comments

When comparing the aquatic conservation strategy under the Proposed Action with the No Action Alternative, which is continued timber harvest within the Plan Area under the CFPRs, the Services have concluded that the Proposed Action would provide for greater conservation of covered salmonid species and the habitat they depend upon in the following ways:

Class I Streams

Current CFPRs allow for the Class I (fish-bearing) watercourse and lake protection zone (WLPZ) to end at 100 feet if there is selection harvest beyond. The Proposed Action will always have a 150 foot Class I WLPZ regardless if there is clearcutting or selection harvest beyond. Over the next 50 years this additional 50 feet will provide for greater potential recruitment of large woody debris (LWD), greater opportunity to develop shade producing trees, restrictions on road building, and greater potential to reduce landslide risks as more trees are likely to be retained in the additional 50-foot zone.

In Class A lands (planning watersheds that currently or historically supported coho salmon) the Proposed Action requires a higher canopy retention requirement in the zone most critical to stream protection (0-75 feet). The Proposed Action requires 85 percent overstory canopy retention in this zone, which in many cases will effectively result in little opportunity to cut larger trees which are so critical for shade, LWD, and bank stability. The reason this requirement is likely to result in essentially a no-cut standard is because it is difficult to remove 15 percent canopy and still retain 85 percent overstory canopy within an existing stand except in very dense stands, which are not common within the Plan Area.

From 30-100 feet, the current CFPRs have a 70 percent overstory canopy retention requirement, which may allow for some additional trees to be harvested that would be retained under the HCP. The current CFPRs extend the canopy requirement to 100 feet; however, the Proposed Action will require 65 percent canopy retention from 75-150 feet. The difference between 65 percent and 70 percent canopy as applied on the ground is likely to be effectively negligible, and the Proposed Action extends the canopy requirement to 150 feet always as previously mentioned. Under the current CFPRs, if a clearcut is located beyond 100 feet, the canopy retention requirement is 50 percent (less than the HCP requirements). The requirement to leave the 10 largest trees per 330 feet is the same as the current CFPRs and will provide for long-term LWD recruitment. The current CFPRs establish a no cut zone of 0-30 feet.

In Class A lands, the Proposed Action requires that trees providing shade to pools be retained. The current CFPRs have no such requirement, which means trees that are providing shade and overhead cover for juvenile coho could be harvested, potentially resulting in elevated summertime temperatures.

For Class I inner gorges, the Proposed Action will require a minimum 60 percent canopy retention on the inner gorge. The current CFPRs have no such requirement, which means harvest could be fairly intensive on the inner gorge resulting in a potential for increased landslide activity during intense storm events. The requirement to leave a significant number of trees on inner gorge slopes also means that should the slopes fail, there will be trees to deliver to adjacent Class I watercourses for LWD purposes and to meter sediment delivered to the watercourse over time.

Class II Watercourses

The Proposed Action has one harvest prescription for all Class II watercourses within Class A Lands. The current CFPRs allow for two prescriptions based on whether a registered professional forester (RPF) has determined the watercourse is Class II-Large or Class II- Small. The CFPRs require a 0-30-foot no-cut buffer on Class II-Large watercourses, with a 70 percent overstory canopy retention requirement from 30-100 feet. Class II-Large watercourses under CFPRs also require that the seven largest trees per acre be retained and that harvest increases the quadratic mean diameter (QMD) of the post-harvest stand. The Proposed Action for all Class II watercourses requires 85 percent overstory canopy retention with at least 25 percent conifer overstory retention from 0-50 feet, but does not establish a no-cut zone, require retention of the seven largest trees per acre, or require an increase in QMD. Again, with the 85 percent overstory canopy requirement, this essentially translates to a no-cut zone on most places on the landscape. With the Proposed Action, harvest from 50-100 feet will require retention of 65 percent overstory canopy with retention of at least 25 percent conifer overstory. For Class II-Small watercourses, the current CFPRs establish a 0-15 foot no-cut zone and a 35-85 foot Inner Zone based on slope. The Inner Zone requires that 50 percent total canopy be retained post-harvest which must be comprised of at least 25 percent of overstory conifers. The Proposed Action will not allow smaller riparian protections by designating a Class II as a Class II-Small, meaning greater protection is likely throughout the Plan Area than the current CFPRs would allow. The Proposed Action requires greater overstory retention requirements, but does not require the retention of the seven largest trees per acre on large Class IIs as the CFPRs do. However, the higher overstory retention requirement may result in the retention of the largest trees even though this is not a specific requirement. Overall, the benefits to Class II watercourses from implementation of the HCP WLPZ prescriptions are not as significant at the benefits of Class I WLPZ protection when compared to current CFPRs. However, current CFPRs allow for RPFs to implement less restrictive riparian protections via the designation of a Class II watercourse as a Class II-Small which provides for less protection than the Proposed Action.

On Class A Lands, the Proposed Action requires that inner gorges on sideslopes greater than 55 percent beyond the Class II WLPZ receive the following standard treatment: 1) no clearcutting on the inner gorge, 2) retention of a minimum 60 percent overstory canopy, 3) review by a Professional Geologist, and 4) extension of these requirements to 200 feet from the WLPZ line or a break-in-slope, whichever is less. The current CFPRs have no such pre-set requirements for Class II inner gorges in anadromous watersheds and require that

they be mapped and protected. There is currently discretion allowed in the CFPRs for how a Class II inner gorge is protected. By requiring review by a Professional Geologist, preventing clearcutting, and retaining 60 percent overstory canopy, the Proposed Action should provide for greater long-term stability of Class II inner gorges, minimizing mass-wasting events that can contribute large quantities of sediment to watersheds which support anadromous salmonids.

Class III Watercourses

In Class A Lands, the Equipment Limitation Zone (ELZ) for Class III watercourses in the Proposed Action is essentially the same as the current CFPRs in watersheds with anadromous salmonids. The Proposed Action will provide additional riparian protections (beyond requirements of the current CFPRs) within the Class III ELZ in the following ways: 1) a requirement to leave 50 percent of the understory on the ELZ (CFPRs have no such requirement), and 2) no burning is allowed in the ELZ.

In Class A Lands, Class III inner gorges will have the following protections not provided for in the current CFPRs: 1) no clearcutting on the inner gorge, 2) harvest on the inner gorge will require review by a Professional Geologist, and 3) any harvest on the inner gorge should maintain 60 percent overstory canopy post-harvest. Additional conservation benefits provided by the Proposed Action requirements on Class III watercourses and inner gorges include greater hillslope stability provided by inner gorge protections and requirement to leave significant levels of understory and overstory vegetation, restrictions on burning in the ELZ, requirements to retain hardwoods, and prevention of clearcutting on inner gorge slopes. Again, should there be mass-wasting events on Class III ELZs or inner gorges, trees will be retained in these zones, providing for LWD recruitment, and the slow release of sediment to higher order watercourses.

Roads and Monitoring

Under current CFPRs, road assessment for potential sediment sources and recommended treatment to identified sources (e.g. crossings) is conducted on a THP-by-THP basis. This essentially means fixes to road problems generally do not occur until a forester proposes to use that road in association with a THP. The Proposed Action will accelerate this process by requiring that roads in priority coho watersheds (e.g. Beaver and Horse Creeks) be assessed within 5 years of permit issuance and treated to stabilize at least 50 percent of the potential sediment delivery volume within 10 years of permit issuance. Treatment sites will include an evaluation of risk to aquatic species in determining prioritization for treatment. All roads in Class A watersheds will be assessed and treated within 15 years of permit issuance. What is important to note is that this treatment plan will not be tied to THPs, although it is likely FGS will treat assessed roads in THPs when convenient to do so to maximize efficiencies. Within Class B watersheds, roads will be inventoried within 15 years of permit issuance. Road treatment in Class B watercourses will likely be tied to THPs. This accelerated road assessment and treatment program in Class A watersheds should result in accelerated rates of achieving reductions in sediment delivery to anadromous watercourse versus conducting sediment control activity under current CFPRs. In addition, the accelerated road treatment program will address fish passage problems within Class A watersheds by providing access to currently blocked or limited coho habitat in timeframes much faster than would occur under current CFPRs (i.e., THP-by-THP basis).

The Proposed Action would implement a comprehensive aquatic monitoring and reporting program upon permit issuance. Components of the monitoring program include compliance monitoring to ensure the conservation measures of the aquatic conservation program are being properly implemented, and effectiveness monitoring to ensure that biological goals and objectives related to water temperature, LWD recruitment, fine sediment mitigation, and channel conditions are being achieved over time. Monitoring reports will be produced on regular timeframes and provided to the Services in order to evaluate whether the applicant is on target for achieving the goals of the HCP and if not, will require the applicant and the Services to confer to address any deficiencies. Under current CFPRs, this level of monitoring and reporting is not required.

Theme 10: Letters of Support for issuance of the HCP and ITPs

A number of commenters wrote letters of support for the HCP (the Proposed Action of the Draft EIS) and the issuance of the ITPs. The names of the supporters who submitted letters are listed below.

- Baldwin, Herb
- Bradshaw, Lloyd
- California Department of Fish and Game (CDFG)
- Hadley, Ryan
- Haynes, Bruce
- Henson, Steve
- Hoover, Robert
- Klamath Alliance for Resources & Environment (KARE)
- Livingston, Tim
- Peterson, Howard

Individual Comments and Responses

Francis Mangels

Fruit Growers Public Meeting
December 2, 2009, 6-8 p.m. Miner's Inn, Yreka, CA
Comment Period

Commenter 1: Francis Mangels

My name is Francis Mangels, I'm associated with the Environmental Voices. I do not represent these as a paid member, I am affiliated with them. Audubon, Sierra, Environmental Voices, Union of Concerned Scientists, National Wildlife Federation. Some of this is maybe repetitive, but I'm going to run through it and try to get it done in 5 minutes.

What are impacts of grazing on the watershed? I didn't hear anything about it. What are the cumulative effects? How about those; some of those concerning the NSO appeared incomplete. The spotted owl population has been declining at 4.3% to 7.6% per year for 20 years, and how will this project contribute to saving the species? For a declining species, how does this comply with ESA? I'd like intermittent reports to come in to tell us about this. What effect does global warming have on cumulative effects on owls and TES species? What effect does the pH change in forest soils have as a cumulative effect? It has been rising above the normal 5.5 to near neutral in the Shasta Trinity National Forest and I'd like to know what is going on in the Klamath National Forest. Forest soils going to 7.0 pH from 5.5 appears to be something serious is going wrong with the ecology up there. 1 2 3 4 5 6

As the military spraying and Ag I (silver iodide) aerosols reduce the rainfall by increasing chemical heat of condensation effects on particulate, how will this cumulatively affect the habitat in the project area? 7

How will you react to drought, fire, flood, and other disasters? What specifically will you do? My measurements from the EPA lab show the 61, 000 micrograms per liter of aluminum is in the snow water. Also amounts of barium, strontium, and titanium and what amounts are in the local water/snow/soil and what effects do these have on TES species, especially aquatic insects for salmon. And I'd like you to test for these metals in those areas. Forest plans are revised and so on every 10 years. 50 years seems much too long, especially considering the rate of climate collapse and what will you do if effects are compounded from various factors? What's wrong with 10 years? The Forest Service does it every 10 years; why don't you use 10 years? 8 9 10

You have the problem of checkerboard ownership, why not a land exchange, so the USFS owns the CHU's and the spotted owl territories? Then FGS can have no problems. How are you going to fulfill your plan with increased logging? Will this generally remove more habitat? 11 12

What happened to the US Forest Service Aquatic Conservation Strategy? I didn't hear that mentioned. Will this be followed or improved on? Your retention of conifer and hardwood canopy seems too low, and how do you know it's enough? 13 14

I might interject here I am retired 35 years as a wildlife biologist with the US Forest Service, GS 11. 15

And I 'd like to know how will you efficiently monitor the FGS for compliance? What person, I want a name of a person who will be accountable and who will actually pay and how much will they pay for cleanup/restoration of mistakes and accidents? In street language; "who gots the dough", "who got the the money?" "Where da money?" 16 17

The spotted owl is vital as a soil fungi innoculator which promotes fast and long term tree growth and survival. If you reduce the spotted owl populations, you will automatically also reduce tree growth, reduce old growth and thus help to eliminate the spotted owl. So I'd like to see more spotted owl preservation and I don't see…now if you are going to do take, you know take is take… 18

Will you monitor aquatic insect populations in fish streams? I think this is better than an erosional check and it will show the change, if any, in the aquatic habitats and well being of our salmon populations. The salmon population is forever and that's a lot of money; infinite salmon compared to a short term gain from a couple of timber sales. 19

I'm not generally concerned with the NSO if it's east of I-5, provided that protection is increased for the west of I-5. I've been monitoring the spotted owl territories over here, in the Klamath area; I'm very familiar with these owls down in here and the habitat over here is pretty damn poor and there is no place for them to go because they can't make the leap across here, anywhere, so these are like dead end owls right here. They're not going anywhere. So I'm really not concerned about those, but I am very concerned about the owls over there on the west side. 20

I prefer the Proposed Plan A, but I would like answers to the above questions and I'd like them addressed adequately. As a biologist I've heard that "oops" game and "will never do that again teacher" game before and I want some real accountability on this from both sides of the equation. 21

And thank you very much on behalf of the organizations.

Francis Mangels

Response to Comment Mangels-1

The commenter asks "What are impacts of grazing on the watershed?" The Services note that grazing is not a covered activity under the Proposed Action; however, grazing is discussed in Section 4.1.3 of the HCP to provide historical context. Implementation of the HCP would have no effect on grazing activities in the Plan Area (which are currently minimal on the applicant's ownership). Effects from grazing, including degradation of riparian function by simplifying the composition of riparian species and weakening streambank structure, also are considered in the evaluation of cumulative effects in Chapter 5 of the Final EIS.

Response to Comment Mangels-2

The commenter asks "What are the cumulative effects?" The evaluation of cumulative effects is found in Chapter 5 of the Final EIS.

Response to Comment Mangels-3

The commenter discusses the decline in northern spotted owl populations, and asks about how the project would contribute to saving the species, and how it would be consistent with the ESA. For a summary of effects on northern spotted owls, see Theme Response 2, which describes how the Proposed Action would benefit northern spotted owls. The incidental take permit process is consistent with Section 10 of the ESA, as long as the Services can make the required findings for permit issuance (see Section 1.3 of the Final EIS). Theme Response 7, and the information in the "Recovery" subheading in Theme Response 2, discuss how the Proposed Action meets the standards and requirements of the ESA.

Response to Comment Mangels-4

The commenter requests intermittent reports in order to determine how the Proposed Action will contribute to saving the species (northern spotted owl) and comply with the ESA. The Services note that reporting requirements for northern spotted owl, including annual reports, are described in detail in Section 7.3.2 of the HCP. Copies of reports submitted to the Services will be available upon request.

Response to Comment Mangels-5

The commenter asks "What effect does global warming have on cumulative effects on owls and other threatened and endangered species?" The topic of climate change was raised by several commenters. These comments mostly addressed how change in climate could change habitat conditions for the covered species, and stated that it is unwise to approve a 50-year incidental take permit given this uncertainly about future habitat conditions. The Services acknowledge that global climate change may alter habitat conditions in the plan area in the long term (see discussion in HCP Section 8.2.1). Climate change is addressed in the EIS in terms of the effects of the action on greenhouse gas emissions. The Center for Biological Diversity offered extensive comments on the Draft EIS analysis, and the Services have responded to these comments individually in Appendix E. Also see Theme Response 5.

Response to Comment Mangels-6

The commenter describes a change in soil pH from 5.5 to 7.0 in the Shasta Trinity National Forest. The USFWS contacted Joe Blanchard, Soil Scientist at the Klamath National Forest (KNF), who said he wasn't aware of any evidence suggesting that soil pH is changing to the extent indicated by the commenter on the Klamath National Forest. Mr. Blanchard did mention that soil pH can increase with fire, but only within the surface soil in the short-term. He reported that soil pH has increased in other parts of the country, but not within this region.

Response to Comment Mangels-7

The commenter asks about the effects of military spraying and silver iodide. The Services are not familiar with any military spraying activities or use of silver iodide (e.g., for cloud seeding) in the region. The comment appears to be too speculative to address in the Final EIS, even as a cumulative effect.

Response to Comment Mangels-8

The commenter asks "How will you react to drought, fire, flood, and other disasters? What specifically will you do?" The Services note that drought, fire, flood, and other disasters of a reasonable magnitude are considered reasonably foreseeable and would be dealt with as "changed circumstances." The specific responses to these changed circumstances are described in Section 8.2.1 of the HCP and in the Implementation Agreement. Unforeseen circumstances due to drought, fire, etc., are described in Section 8.2.2 of the HCP. Changed and Unforeseen Circumstances are also discussed in Chapter 2.2.5 of the Final EIS.

Response to Comment Mangels-9

The commenter addresses what he describes are high levels of aluminum, barium, strontium, and titanium in local water, snow, and soil samples. The Services have evaluated the Proposed Action and alternatives in terms of consistency with water quality control plans. Key water quality parameters of concern (i.e., temperature, sediment, nutrients, and dissolved oxygen) are addressed in the Final EIS. The Regional Water Quality Control Board has not listed any of the watercourses in the region as "impaired" for metals. For this reason, the Services do not believe that additional analysis is warranted.

Response to Comment Mangels-10

The commenter states that forest plans are revised every 10 years and that 50 years seems much too long, especially considering the rate of climate change. The commenter also asks "what will you do if effects are compounded from various factors? What's wrong with 10 years? The Forest Service does it every 10 years; why don't you use 10 years?"

The Services note that several commenters do not support the issuance of a 50-year permit. The Services have issued two other 50-year permit terms for industrial timber companies in the region in the last 10-12 years (Green Diamond and former Pacific Lumber Company). A 50-year permit term for an industrial timber company allows for a long-term forest management strategy and is largely based on typical rotation cycles for even-aged management of commercial species. The permit term is linked to the typical business (i.e., resource extraction) cycle of timber operators. See Theme Response 6, and the discussion of a shorter permit term alternative in Section 2.5.2 of the Final EIS.

Response to Comment Mangels-11

The commenter suggests land exchanges to bring the northern spotted owl activity centers (and CHUs) into federal ownership. Although spotted owls exhibit high site fidelity, they are highly mobile throughout the landscape and the administrative process to relocate properly lines to correspond with the activity center boundaries would be extremely difficult. Also, CHUs are already under federal ownership and are never on private lands. Neither the Services nor the applicant were interested in pursuing this option, especially considering it is up to the applicant to determine what to do with its land.

Response to Comment Mangels-12

The commenter asks "How are you going to fulfill your plan with increased logging? Will this generally remove more habitat?" Under the Proposed Action, logging of higher quality timber would increase because of habitat removal at spotted owl take sites, especially during the first 10 years of the permit term. Having access to increased timber volume would allow the applicant to decrease harvest intensity across its ownership, thereby allowing habitat throughout the plan area to grow within a longer rotational cycle. This is explained in Section 2.2.1 of the Final EIS, and the effects (in terms of habitat changes) are disclosed in Section 4.3.1 (changes in forest size classifications and canopy closure). Also see Theme Response 1.

Response to Comment Mangels-13

The commenter inquires about the "US Forest Service Aquatic Conservation Strategy" (i.e., from the Northwest Forest Plan). The Services refer the commenter to the description of Alternative A (Section 2.3.4 of the EIS). A key element of Alternative A is the requirement of wide, no-harvest riparian buffers, which is consistent with the Northwest Forest Plan Aquatic Strategy. Also see Response to Comment KS Wild-87.

Response to Comment Mangels-14

The commenter states that the Proposed Action's requirements for conifer and hardwood canopy retention "seem to low." The Services acknowledge that the canopy retention requirements are less than the Northwest Forest Plan, but the Northwest Forest Plan was written to apply to federal lands and was never meant to apply to private timberlands. The proposed canopy retention requirements would be an improvement over the current requirements under the CFPRs, and the Services believe that the beneficial effects on aquatic habitat would be similar to (and possibly greater than) the No Action Alternative due to increased overstory canopy, prohibitions on harvest of trees that provide direct shading to pools (Class A lands), and improved LWD recruitment. See Theme Response 9.

Response to Comment Mangels-15

The commenter states that he is retired after 35 years as a wildlife biologist with the US Forest Service (GS 11). The Services acknowledge the commenter's experience, and welcomes his comments on the Draft EIS and HCP.

Response to Comment Mangels-16

The commenter asks about how the applicant will be monitored for compliance. Compliance monitoring for aquatic species, northern spotted owl, and Yreka phlox is described in HCP Sections 7.2.1.1, 7.2.2.1, and 7.2.3.1, respectively.

Response to Comment Mangels-17

The commenter asks about accountability. Compliance monitoring, effectiveness monitoring, and reporting are described in HCP Chapter 7. In addition, the Implementing Agreement describes the applicant's obligations and legal standards for compliance. The Implementing Agreement also requires that the applicant post a letter of credit to ensure that conservation objectives are met. Overall, the applicant (Fruit Growers Supply Company) is accountable for the successful implementation of the Proposed Action, subject to review and certification of annual monitoring reports by the USFWS and NMFS.

Response to Comment Mangels-18

The commenter addresses the role of northern spotted owls as soil fungi inoculators. While northern spotted owls prey on small mammals that carry fungi spores, the USFWS found no evidence to suggest that the owls transport the small mammals in patterns that differ substantially from how the prey distribute themselves. All ecosystem services provided by northern spotted owls would continue to be provided under all alternatives. However, the Services anticipate that the Proposed Action would provide greater benefits to the spotted owl compared to continued implementation of the CFPRs under the No Action Alternative, as described in the Theme Response 2.

Response to Comment Mangels-19

The commenter asks if the Services will require monitoring for aquatic insects. The Services are not requiring that the applicant monitor for aquatic insects, but are requiring monitoring for several other aquatic habitat parameters. As described in HCP Chapter 7, effectiveness monitoring will be required for temperature, sediment, and large woody debris recruitment. The Services are requiring monitoring of these parameters because there is a direct nexus with the aquatic conservation strategy. Stream biota can change rapidly based on a number of factors such as availability of prey, time of year, and climatic conditions. The Services do not feel that there is sufficient control, on an ownership-wide scale, over the processes that control instream insect assemblages to effectively use aquatic insects as part of a long-term monitoring program.

Response to Comment Mangels-20

The commenter states that he is not as concerned about the owls east of I-5 because the habitat quality is so poor and dispersal opportunities are lacking that the owls are not likely to persist. However, the USFWS negotiated with the applicant that incidental take of northern spotted owls associated with known activity centers in this portion of the Plan Area will not be authorized under the HCP. The USFWS considers the owl population in this province to be essential to the regional population; therefore, CSAs will be established on the applicant's ownership to provide demographic support to these activity centers. Activity centers with high conservation value west of I-5 were targeted as mitigation sites and will be supported by establishing CSAs on the applicant's ownership to promote occupancy throughout the 50-year permit term.

Response to Comment Mangels-21

The commenter states concerns with regards to accountability. In regards to accountability, see Response to Comment Mangels-17.

Kenneth Ryan

Commenter 2: Kenneth Ryan.

I'm Kenneth Ryan, I'm a Mt. Shasta resident; and I've been interested in ecosystem protection for many many years through a variety of organizations.

And the thing I 'm going to be looking for and I haven't seen it in the presentation, is the overall concept of ecosystem protection on this vast range of land. I didn't see a good description of what the ecosystem is. We know that when clear cut happens, a great many things move somewhere else, and I will be looking in this and other documents that you have; how you see this overall management of the greater ecosystem in this huge area over a 50 year period. And how much total loss, not just endangered species loss, you expect to have in terms of protecting this over the long term. Or possibly the forest people who have long-term experience in this area could essentially answer that, in terms of how they have in the past managed their forest and accounted for species changes based on their logging practices, and that might answer the question. So I'll be looking for that and if there is more information available, I will be asking questions, probably in the written system. Thank you. 1

No other Public Comments, end of Comment Period.

Kenneth Ryan

Response to Comment Ryan-1

The commenter states that he is looking to see that ecosystem is addressed. The Services acknowledge that the regulatory focus of the Section 10 program is, by definition, focused on endangered and threatened species. However, the federal requirements to consider incidental take in the context of habitat preservation and loss appropriately broadens the analysis to larger ecosystems scales. For example, the analysis of northern spotted owl impacts looks at the changes in the area (and size class) of Klamath mixed conifer forest. Similarly, the analysis of impacts to coho salmon looks at key elements of aquatic habitat (e.g., sediment, temperature). So although ecosystems are not the focus of this effort, the Services are confident that key terrestrial and aquatic ecosystem processes have been appropriately considered in this analysis.

Mass E-mail 1

Mass E-Mail 1

This e-mail was sent by 257 commenters, based on a template posted by KS Wild on their website.

Re: Fruit Growers Supply Company's Habitat Conservation Plan

Dear federal biologist,

I care deeply about the at-risk Northern Spotted Owl and Coho Salmon populations that are tenaciously clinging to life in forests and watersheds of the Klamath Province.

Please do not authorize a "Habitat Conservation Plan" for the Fruit Growers Supply Timber Company that allows for the "take" of these species through damage to their habitat.

I am concerned that the proposed plan allows the timber company to log existing suitable occupied habitat in exchange for the potential creation of hypothetical future habitat elsewhere. 1
I am worried that the plan will lock in a "no surprises policy" that will prohibit adaptive management. 2
I am worried that in the future the timber company may not have the financial means to follow through with its obligations. 3
And I am opposed to the otherwise illegal "take" (killing) of endangered species that would be authorized by the incidental take permits. 4

It is extremely important to me that future generations have live in a world that includes Spotted Owls and Coho Salmon. I respectfully urge the Fish and Wildlife Service and the National Marine Fisheries Service to work to retain these species by protecting them from the economic preference of Fruit Growers Supply Company to "take" them in order to facilitate accelerated logging activities. 5

Sincerely,

Additional Comments from Mass E-Mail 1

Twenty-two of the 257 commentors who sent Mass E-Mail 1 included additional comments within the standard text. These additional comments have been copied into this document, in alphabetical order by last name. Comments from Mass E-Mail 1 are numbered 1 through 5; these additional comments are numbered 6 through 28.

Carol Ampel

These species are federally protected for a reason, and should not be subject to this kind of threat. | 6

These animals are threatened from all sides, barred owl invasion to adverse ocean conditions. The additional pressure on these populations from "take" by timber interests is completely unnecessary and something you have control over – this is a harm you have the power to prevent. | 7

Patricia Benton

I am outraged at the liberties these companies propose to take! | 8

Jason Desanto

Loggers were intentionally killing spotted owls down in Humboldt where I lived in the 1990's in order to be able to say there were no owls present when the biologists arrived. When are we going to stop killing endangered species? | 9

Melba Dlugonski

It makes me so angry that governmental agencies forget their mission. I wish to remind you that the exceptions to the rules are making a mockery of the rules. Resource extraction companies do not respect the future. You can't destroy a habitat and "make them a new one" somewhere else. Nature doesn't work that way. It should be obvious by now as we count the extinctions per minute, and the earth starts to boil, that we've gotten it wrong. It is the job of the Fish and Wildlife Service and the National Marine Fisheries Service to protect these species from Fruit Growers Supply Company intent to kill them and take their natural ecosystem. | 10

Jack Duggan

One little hole in a dam, gone unchecked, can cause the dam to fail. The "incidental taking" of endangered species is such a hole, and there are those ready to expand that hole until the pond of life is drained. | 11

Sunja Goldenrose

It's incredibly sad that logging companies even try to apply for such permits. It shows their complete misunderstanding of their effects upon the forests and their uncaring attitude towards being good forest stewards. | 12

Clarence Hagmeier

Once the owls and salmon are gone, it won't matter whether Fruit Growers breaks with corporate tradition and actually fulfills their promises and crates better habitat. If Fruit Growers gets away with this, a few loggers and mill workers will get a little work, and the executives | 13

and shareholders will make a lot of money. If the remains intact it will support the people living in it, around it, downstream and downwind from it for generations. 13 cont'd

Juliette Hedgecock

I used to live in the Colstein Valley where the Fruit Growers Supply Company call "home" and I care deeply about the at-risk Northern Spotted Owl and Coho Salmon populations that are tenaciously clinging to life in forests and watersheds of the Klamath Province. These animals called this place home long before FGS did. 14

John Koenig

I am very concerned about a proposed HCP that would negatively impact endangered species in northern California. 15

Rozz Leight

I ask you what is the difference between a "business" ethic and personal ethics of a single human being. What allows "businesses" to break the law? 16

Jay Lininger

If the timber company lacks financial means in the future to follow through with its obligations to "replace" habitat lost to regeneration harvest during the life of the HCP, then the public will lack recourse to ensure conservation and recovery of the listed species on FGS lands. 17

Terry Raymer

Northern Spotted Owl and Coho Salmon populations are dwindling in forests and watersheds of the Klamath Province. Is this a natural process, or are we in our interest for resources and profit aggravating the loss of habitat? Without being hyperbolic as many of these letters are, please consider carefully all the alternatives before making a decision. 18

Victoria and Thomas Brow Richert

I live in this beautiful area, and witness the devastation of clearcuts every time I look out my window. I care deeply about the at-risk Northern Spotted Owl and Coho Salmon populations that are tenaciously clinging to life in forests and watersheds of the Klamath Province, and know what happens when a clearcut is allowed near a watershed. 19

Donna Riddle

Authorizing a "Habitat Conservation Plan" for the Fruit Growers Supply Timber Company that allows for the "take" of these species through damage to their habitat is just wrong. Please do not approve this plan. 20

Peter Salant

What will our rapacious logging companies think of next to destroy our natural habitats and eco-systems. Please do not allow this overt attempt to subvert the Endangered Species Act and other restrictions on environmental destructions. 21

Shawn Schmelzer

Sincerely shocked beyond words. 22

Toni Siegrist

Please save the lives of the Spotted Owls and Coho Salmon and help them to go on living for generations to come. Thank you very much. 23

Wayne Slawson

It seems to me quite illogical to allow a timber company to kill Spotted Owls or degrade their habitat when the rest of us are legally barred from doing so. The fact that individual Americans are unlikely to disobey the law in this regard is a reason to enforce the law for a company that seems to have an interest in disobeying it, not the contrary. 24

Paul Torrence

This is seriously unacceptable. 25

Mauna Wilson

I live in the Colestin Valley where Hilt is located. The damage already wrought by the clear-cutting that is taking place is destroying environment of streams, creeks, wildlife of all kinds, as well as impacting negatively the private homes and lands of many local residents. Please stop this needless devastation immediately once and for all. 26

Judy Wolfe

This whole plan is too casual and too arrogant. 27

Carrie Zoll

We have an opportunity here that has never been seen before, creating sustainable economies from remaining intact ecosystems. We can no longer look at forests for logs as our only export. We as a Nation must look carefully at other options for generating jobs as well as creative solutions for our economic crisis. Right now I am working with representatives of the State of Oregon, to develop an alternative economic plan for our forests. Please contact me for more info. I care deeply about the at-risk Northern Spotted Owl and Coho Salmon populations that are tenaciously clinging to life in forests and watersheds of the Klamath Province, and am willing to work hard at preserving them and helping the Nation to succeed financially. 28

Mass E-Mail 1

Response to Comment Mass E-Mail 1-1

The commenters' correctly states that the Proposed Action would allow the applicant to conduct timber harvest in some areas that are currently restricted under the CFPRs because of historic or current northern spotted owl activity. In exchange, the applicant will protect habitat in other areas throughout the 50-year permit term as Conservation Support Areas (CSAs). The Services believe that the long-term benefits of the Terrestrial Conservation Program to the northern spotted owl population would outweigh the short-term impacts of harvesting a portion of the suitable owl habitat on the applicant's ownership for the reasons described in Theme Response 2. The CSAs are not hypothetical – they are areas of existing suitable habitat, or areas of unsuitable habitat that, if allowed to grow, will become suitable habitat over the 50-year permit term.

Response to Comment Mass E-Mail 1-2

The commenters' states concerns that the plan will "lock in a no surprises policy that will prohibit adaptive management." See Theme Response 6 regarding the Services' continued obligation to apply the "No Surprises Rule" to applications for incidental take. Adaptive management can occur in response to changed circumstances as described in HCP Section 8.2.1.

Response to Comment Mass E-Mail 1-3

The commenters' states concerns that the applicant will not have the financial means neccesary to follow through with its obligations. See Theme Response 1 regarding the assurances that the applicant will have the financial means to follow through on its commitments, as well as contingency plans if the applicant fails to meet its obligations.

Response to Comment Mass E-Mail 1-4

The commenters' express concerns about proposed incidental take permits. The Services acknowledge commenters' opposition to the Proposed Action. See Theme Response 6 for an explanation of why incidental take is not illegal.

Response to Comment Mass E-Mail 1-5

The commenters' states concerns about the potential impacts on threatened and endangered species as a result of the proposed action. See Theme Responses 2 and 9 regarding the potential benefits of the Proposed Action compared to continued timber harvest operations under the No Action Alternative.

Mass E-Mail 1 - Additional Comments

Response to Comment Mass E-Mail 1-6 (Carol Ampel)

See Theme Responses 2, 6, and 7.

Response to Comment Mass E-Mail 1-7 (Carol Ampel)

See Theme Responses 2, 6, and 7.

Response to Comment Mass E-Mail 1-8 (Patricia Benton)

See Theme Responses 6 and 7.

Response to Comment Mass E-Mail 1-9 (Jason Desanto)

Intentional killing of northern spotted owls is subject to criminal prosecution by the federal government under Section 9 of the ESA – evidence of criminal activity needs to be reported to the USFWS. See Theme Responses 6 and 7.

Response to Comment Mass E-Mail 1-10 (Melba Dlugonski)

See Theme Responses 6 and 7.

Response to Comment Mass E-Mail 1-11 (Jack Duggan)

See Theme Responses 6 and 7.

Response to Comment Mass E-Mail 1-12 (Sunja Goldenrose)

See Theme Responses 6 and 7.

Response to Comment Mass E-Mail 1-13 (Clarence Hagmeier)

See Theme Responses 6 and 7.

Response to Comment Mass E-Mail 1-14 (Juliette Hedgecock)

See Theme Responses 2 and 9.

Response to Comment Mass E-Mail 1-15 (John Koenig)

See Theme Responses 2 and 9.

Response to Comment Mass E-Mail 1-16 (Rozz Leight)

See Theme Responses 6 and 7.

Response to Comment Mass E-Mail 1-17 (Jay Lininger)

See Theme Response 1.

Response to Comment Mass E-Mail 1-18 (Terry Raymer)

See Theme Responses 2 and 9.

Response to Comment Mass E-Mail 1-19 (Victoria and Thomas Brow Richert)

See Theme Responses 2 and 9.

Response to Comment Mass E-Mail 1-20 (Donna Riddle)

See Theme Responses 6 and 7.

Response to Comment Mass E-Mail 1-21 (Peter Salant)

See Theme Responses 6 and 7.

Response to Comment Mass E-Mail 1-22 (Shawn Schmelzer)

See Theme Responses 6 and 7.

Response to Comment Mass E-Mail 1-23 (Toni Siegrist)

See Theme Responses 2 and 9.

Response to Comment Mass E-Mail 1-24 (Wayne Slawson)

Obtaining an ITP is the only way a private landowner can receive authorization to legally take a listed species in the conduct of an otherwise lawful activity. Obtaining such authorization requires the landowner to develop an HCP. See Theme Responses 6 and 7.

Response to Comment Mass E-Mail 1-25 (Paul Torrence)

See Theme Responses 6 and 7.

Response to Comment Mass E-Mail 1-26 (Mauna Wilson)

Clearcutting is allowed by California state law, and is expected to continue to occur with or without an HCP. The Proposed Action will institute forest management above and beyond the existing CFPRs, and will incorporate a long-term conservation strategy for the covered species – something that is lacking in the state timber harvest rules. See Theme Responses 2, 6, 7, and 9.

Response to Comment Mass E-Mail 1-27 (Judy Wolfe)

See Theme Responses 6 and 7.

Response to Comment Mass E-Mail 1-28 (Carrie Zoll)

Since the applicant is a private landowner with management authority over the lands they own, the Services cannot dictate how they generate income from their land. The applicant has chosen to continue timber harvest within the plan area while incorporating a long-term conservation strategy for the Covered Species. See Theme Responses 2, 6, 7, and 9.

Jim Wells

From:	jim Wells
To:	FGSHCP.SWR@noaa.gov
Subject:	Please Do Not Allow FGS to Kill Spotted Owls
Date:	Tuesday, January 05, 2010 9:37:41 PM

Re: Fruit Growers Supply Company's Habitat Conservation Plan

Dear federal biologist,

I do not like the fact that there is a legitimate need for organizations like KS Wild, with their shrill and angry tactics.

However, there IS a legitiamte need. Extractive mindsets like that displayed by Fruit growers Supply Company, and the allies they always seem to find in our federal land management agencies, are selfish, greedy, ignorant, and destructive -- at the expense of any and all other life forms (other humans included, financially, environmentally, spiritually, and physically) and of the web of life itself.

This "taking" mentality has incrementally degraded our world. It knows no limits, always pushing for cutting the remaining pie once again in half. It has to be given no more quarter. Period. 1

Extractive industries have been posting record profits for decades, while species, and the habitats they depend on have been posting record losses. Extractive industries neither need nor deserve government facilitation. Species and habitats do,

It is that simple.

Sincerely,

jim Wells
2115 W. 24th Ave.
Eugene, OR 97405

Jim Wells

Response to Comment Wells-1

The commenter states concerns about takings and the extractive industries in the area. See Theme Responses 2, 6, 7, and 9.

American Bird Conservancy

From:	Steve Holmer
To:	FGSHCP.SWR@noaa.gov
Subject:	Please Do Not Allow FGS to Kill Spotted Owls
Date:	Thursday, January 07, 2010 11:39:08 AM

Re: Fruit Growers Supply Company's Habitat Conservation Plan

Dear federal biologist,

American Bird Conservancy cares deeply about the at-risk Northern Spotted Owl. Please do not authorize a "Habitat Conservation Plan" for the Fruit Growers Supply Timber Company that allows for the "take" of this species through damage to its habitat.

We are concerned that the proposed plan allows the timber company to log existing suitable occupied habitat in exchange for the potential creation of hypothetical future habitat elsewhere. Given the rapid population decline of the Spotted Owl, competition from Barred Owl, and extensive habitat remaining at risk to logging, much stronger measures are urgently needed to protect habitat. 1

We respectfully urge the Fish and Wildlife Service to protect Spotted Owls from the economic preference of Fruit Growers Supply Company to "take" them in order to facilitate accelerated logging activities.

Sincerely,

Steve Holmer
American Bird Conservancy
1731 Connecticutt Ave NW
Washington, DC 20009

American Bird Conservancy

Response to Comment American Bird Conservancy-1

The commenter states concerns about the proposed plan "allowing the timber company to log existing suitable occupied habitat in exchange for the creation of habitat elsewhere". See Response to Comment Mass E-Mail 1-1.

Jim Steitz

From: Jim Steitz
To: FGSHCP.SWR@noaa.gov
Subject: Fruit Growers Supply Company "Habitat Conservation Plan"
Date: Friday, January 08, 2010 8:04:17 PM

Jim Steitz
357 Vista Street Apt. 5
Ashland, OR 97520

January 8, 2009

Lisa Roberts
National Marine Fisheries Service
1655 Heindon Road
Arcata, CA, 95521

Dear Ms. Roberts,

I write to urge the National Marine Fisheries Service to **reject the proposal of the Fruit Growers Supply Company to further destroy and diminish the remaining habitat of the Northern Spotted Owl and Coho Salmon** in northern California. These species have already lost far too much of their habitat, and no further compromises of their survival for superfluous commodity production should be allowed by NMFS.

The proposed "Habitat Conservation Plan" is counterfactually named, as it would conserve the species' habitat far less than simple and **straightforward enforcement of the Endangered Species Act as it was intended.** The "take" of these species through destruction of their habitat is precisely what the ESA was written to stop. NMFS should stop sending owl and salmon habitat to the paper mill, through convoluted legal bypasses of the ESA's intended backstops. Moreover, the "no surprises" rule is plainly contrary to rational, responsive management that accounts for future new information and new conditions as they occur. **Nothing in the ESA allows NMFS to preemptively declare that it will ignore future scientific information** about harm to listed species from a present "takings" permit decision. Rather, it is the ESA itself that was meant as a "no surprises" policy on behalf of listed species by placing NMFS between species and their would-be malefactors, a duty NMFS now abdicates. 1 2

The proposed mitigation of **hypothetical future habitat creation is clearly not concrete, specific, or enforceable enough** to constitute an acceptable mitigation of an otherwise illegal taking of endangered species. Moreover, to the extent that any future created habitat actually supported Northern Spotted Owls or Coho Salmon, it would consist of large trees that would be no less tempting to loggers than those that FGSC proposes for shredding today. **The conflict between a tree standing as habitat for endangered species and as a commodity emerging from a mill is unresolvable**. The ESA requires NMFS to rule in favor of protecting the "habitat" identity of these trees. 3 4

The notion of "incidental taking" implies an activity that is only tangentially harmful to the habitat of a listed species. **The purpose of logging proposed by FGSP is to remove the primary physical component of Northern Spotted Owl habitat. It is not an "incidental" taking.** It is a direct removal of the owl habitat, and destruction of the primary biological component of the watershed function that feeds the salmon habitat. To grant an "incidental take" permit would abuse such permits, as well as do violence to the English language. 5

Again, please reject the proposed "Habitat Conservation Plan" and enforce the ESA to proscribe the logging of the owl and salmon habitat, as the law intended. Thank you for your attention to this urgent issue.

Sincerely,

Jim Steitz

Jim Steitz

Response to Comment Steitz-1

The commenter states that the Proposed Action is expected to benefit the Covered Species compared to the No Action Alternative, and the Services have decided that the application meets the issuance criteria for an ITP. See Theme Responses 2 and 9.

Response to Comment Steitz-2

The commenter states concerns regarding the No Surprises Policy, see Theme Response 6.

Response to Comment Steitz-3

The commenter states concerns with regard to "hypothetical future habitat creation," refer to Response to Comment Mass E-Mail 1-1. The Services believe that the Terrestrial Species Conservation Program measures for northern spotted owl, focusing on the 24 Conservation Support Areas, is concrete, specific, and enforceable as described in HCP Section 5.3.1 (Northern Spotted Owl), Chapter 7 (Monitoring and Reporting), Appendix D (CSA Maps), and the Implementing Agreement.

Response to Comment Steitz-4

The commenter states "The conflict between a tree standing as habitat for endangered species and as a commodity emerging from a mill is unresolvable". See Theme Responses 6 and 7.

Response to Comment Steitz-5

Commenter states concerns about timber harvesting. Timber harvesting in California is a lawful activity as long as it occurs consistent with rules and regulations. Timber harvest may result in the taking of listed species incidental to timber operations, which is why FGS applied for an ITP. See Theme Responses 2, 6, 7, and 9.

Richard Klug

ROSEBURG

January 19, 2010

Lisa Roberts
National Marine Fisheries Service
1655 Heindon Rd
Arcata, CA 95521

Dear Ms. Roberts

I would like to provide comments on the Fruit Growers Supply Company's Multi-Species Habitat Conservation Plan and the associated Incidental Take Permit.

I think that the method in which NSO sites are ranked based on their conservation value is a unique and appropriate way to deal with NSO in this landscape. The fact that "takings" are assessed as to the impact on the population is an important component of this HCP. There is at least a small likelihood that some, if not many, of the activity centers in the Area of Impact have very low or no value to the NSO population as a whole. The mix of both habitat and species specific objectives is a good way to provide both species protection and long term assurances to FGS that they should be able to meet future management needs. 1

One question that I had on the terrestrial portion of the plan is how would adjacent landowners be impacted by the "taking" of a specific NSO activity center. If an activity center is "taken" by the definitions in the HCP but the birds remain in the area, will an adjacent landowner be required to maintain suitable habitat for that site or will the site, in essence, be removed from the database or would the adjacent landowner be further encumbered by an activity center that is now in a habitat deficit situation? If an activity center is "taken" and it appears that the birds have moved how many years of negative surveys would be required by and adjacent landowner before they would, also, be able to operate within the home range of that activity center? 2

One concern / comment I have on the aquatic portion is a comment I heard at the public meeting in Yreka. It was specifically stated that some portions of the aquatic mitigations (terrain-specific prescriptions for shallow and deep seated MWHZ's) would not be open to adaptive management (I'm assuming other portions are open to adaptive management). As a scientist I find it hard to imagine a case in which adaptive management would not be appropriate. We are constantly forming and testing new hypotheses about how our natural systems function. We continue to learn new and innovative ways to mitigate both past and current impacts. By locking into a given set of prescriptions it could not only decrease the benefit of the HCP (by not using the most appropriate mitigations) but also could needlessly devalue their property. I'm also curious why the NMFS would not want to have an adaptive management approach in case the proposed mitigations are found to be inadequate. 3

Thank you for the opportunity to provide comments on the FGS HCP.

Sincerely,

Richard R Klug, Jr.
Wildlife Biologist

98 Mill Street
Weed, CA 96094
PH 530-938-5725
FX 530-938-5490
www.Roseburg.com

Richard Klug

Response to Comment Klug-1

The commenter states that he supports the method used to rank owl activity centers based on their conservation value because of the possibility that some of the activity centers have very low or no value to the owl population as a whole. See Theme Response 2.

Response to Comment Klug-2

The commenter states that adjacent land owners will be required to continue to maintain suitable habitat on their property for activity centers authorized for "take" under the Proposed Action. However, they will not be required to protect additional habitat on their ownership to compensate for the removal of habitat on the applicant's lands. If there are no spotted owl detections during 4 years of protocol surveys, a request for non-occupancy may be submitted to CAL FIRE for the activity center. Conversely, adjacent land owners could apply for their own ITP.

Response to Comment Klug-3

The commenter points out an error in the HCP regarding terrain-specific prescriptions for active shallow and deep-seated mass wasting hazard zones. These prescriptions are subject to adaptive management. The error has been corrected (see revised sections 5.2.4.2 and 5.2.4.3 of the HCP).

Mass E-mail 2

Mass E-Mail 2

This e-mail was sent by 286 commenters, based on a template posted by KS Wild on their website.

Dear Ms. Roberts and NMFS,

Please DO NOT authorize a habitat conservation plan (HCP) containing incidental take permits (ITPs) for threatened coho salmon to the Fruit Growers Supply (FGS) Company for its timber lands on the Klamath and Scott Rivers.

Logging in Klamath tributary watersheds including Beaver Creek, Horse Creek and the Scott River - much of it by FGS - has already caused severe sediment and temperature pollution, degrading habitat for threatened coho, imperiled spring Chinook, steelhead and other aquatic and amphibious species in those streams. 1

Recent coho counts suggest the Scott River has barely one year-class returning to spawn. This river already needs extensive restoration, not further degradation and additional "take" of threatened species. Likewise, tributaries like Beaver or Horse Creek should provide thermal refugia for the mid-Klamath?s imperiled fish, but are instead being listed by water quality regulators as impaired precisely due to activities such as excessive logging. 2

The Draft Environmental Impact Statement (DEIS) on the proposed FGS HCP does not adequately analyze how logging at the levels allowed by the ITPs will not further exacerbate sediment, temperature and dissolved oxygen problems, let alone comply with California's North Coast Basin Plan that protects beneficial uses such as coldwater fisheries. 3 The DEIS also does not incorporate adequate data about fish population trends. 4

NOAA/NMFS and USFWS should be acting decisively to enforce the Endangered Species Act on the Klamath and Scott Rivers, not standing by as it is eroded by yet another program that puts private interests before public resources. 5

Please uphold your responsibility to protect and restore coho under the federal Endangered Species Act by denying HCP/ITP coverage to a company that is part of the reason Klamath salmon are endangered. 6

Additional Comments from Mass E-Mail 2

Six of the 286 commentors who sent Mass E-Mail 2 included additional comments within the standard text. These additional comments have been copied into this document, in alphabetical order by last name. Comments from Mass E-Mail 2 are numbered 1 through 5; these additional comments are numbered 6 through 12.

Carol and Ken Ampel

Habitat Conservation Plans cover large areas of the landscape and multiple species. They need to be finely-tuned to their ecology, the long-term potential for changing conditions, and the cumulative effects of human activities and natural events on the biological, land, and water components of those landscapes. 7

Juan Byron

There is no reason to allow ITPs when salmon are so scarce. 8

Trevor Estlow

The recent judgment to lift limits on irrigation pumping from the Sacramento-San Joaquin Delta demonstrates the demise of salmon further south. 9

Suzanne Ferroggiaro and Family

I am writing on behalf of our 12 family voters and 4 children; who believe that these public fisheries are too important to put before private profit 10

Nancy Macy

It is ridiculous that any timber harvests be allowed to threaten the health of the watersheds, especially those with endangered species. 11

Stuart Smith

Standing on my farm I see so much serious logging damage all around us. 12

Mass E-Mail 2

Response to Comment Mass E-Mail 2-1

The commenters' express concerns about sediment and temperature pollution, degrading habitat for threatened coho, spring Chinook, steelhead and other aquatic and amphibious species in the project area. The Services agree that a long history of logging in the Klamath River watershed has caused sediment and temperature impairments in the mainstem rivers and important tributaries, degrading aquatic habitat. This is discussed in Chapter 5 (Cumulative Effects), along with the effects of several other categories of actions. The Services anticipate that the Proposed Action will make a positive contribution compared to continued timber management under the No Action Alternative (see Theme Response 9).

Response to Comment Mass E-Mail 2-2

The commenters' state concerns about the potential impacts of continued logging on threatened species in the project area. The Southern Oregon/Northern California Coast Coho Salmon ESU is discussed in Section 3.3.3.3 of the Final EIS, including their known or suspected occurrence in about 3.7 miles of streams in the Plan Area. The Services acknowledge the continuing declines in coho salmon populations, and recognize timber harvesting as one of the factors for decline leading to listing this coho salmon population as threatened under the ESA (see the numerous status reviews and listing notices cited in Section 3.3.3.3). It is important to note, however, that timber harvesting would occur under all alternatives consistent with applicable rules and regulations (including water quality control plans as described in Theme Response 8). As described in Theme Response 9, the Services anticipate that the Proposed Action will make a positive contribution compared to continued timber management under the No Action Alternative. Also, it should be noted that NMFS will continue to work with the California Board of Forestry to address the cumulative effects of forest management on listed species habitat.

Response to Comment Mass E-Mail 2-3

The commenters' state concerns about sediment, temperature and dissolved oxygen levels. Sediment, temperature, and dissolved oxygen are evaluated in Section 4.1 (Geology), 4.2.2 (Water Temperature), and 4.2.5 (Dissolved Oxygen), and in the corresponding sections of Chapter 5 (Cumulative Effects). The analysis is at a level of detail sufficient to evaluate this application under NEPA (see Theme Response 4). Regarding Basin Plan consistency, see Theme Response 8.

Response to Comment Mass E-Mail 2-4

The comments' state concerns about the adequacy of fish population data. Information about fish population trends was provided in the Draft EIS (see the numerous status reviews and listing notices cited in Section 3.3.3.3). See Theme Response 4 regarding the appropriate level of detail required to evaluate this ITP application under NEPA.

Response to Comment Mass E-Mail 2-5

The commenters' express concerns about enforcement of the ESA in relation to the greater project area. It is important to recognize that the incidental take permit application process is part of the ESA. For additional discussion, see Theme Responses 6 and 7.

Response to Comment Mass E-Mail 2-6

The commenters' state concerns about incidental take permits and the ESA as it relates to the proposed project. The Services acknowledge commenters' opposition to the Proposed Action. Please see Theme Responses 6, 7, and 9.

Mass E-Mail 2 – Additional Comments

Response to Comment Mass E-Mail 2-7 (Carol and Ken Ampel)

The Services agree with the commenters' statement about HCPs. Please refer to Chapter 8 of the HCP for a discussion of Changed Circumstances and Chapter 5 of the Final EIS for a discussion of Cumulative Impacts.

Response to Comment Mass E-Mail 2-8 (Juan Byron)

See Theme Responses 6, 7, and 9.

Response to Comment Mass E-Mail 2-9 (Trevor Estlow)

The Services must evaluate the species solely with its population unit (e.g., SONCC ESU) when taking action on the proposed ITP.

Response to Comment Mass E-Mail 2-10 (Suzanne Ferroggiaro and Family)

See Theme Responses 6, 7, and 9.

Response to Comment Mass E-Mail 2-11 (Nancy Macy)

See Theme Responses 6, 7, and 9.

Response to Comment Mass E-Mail 2-12 (Stuart Smith)

See Theme Responses 6, 7, and 9.

Steve Salzman

From: Steve Salzman
To: FGSHCP.SWR@noaa.gov
Subject: Protect Klamath coho - reject FGS HCP
Date: Sunday, January 31, 2010 12:31:56 PM

Dear Ms. Roberts and NMFS,

There is no such thing as incidental take of salmon on the Klamath. Ever one of them counts at this point. No HCP for the Fruit Growers Assoc. SS 1

Steve Salzman
40 Glendale Dr.
McKinleyville, CA 95519

Steve Salzman

Response to Comment Salzman-1

The commenter states "there is no such thing as incidental take of salmon on the Klamath". Timber harvesting in California is a lawful activity as long as it occurs consistent with rules and regulations. Timber harvest may result in the taking of listed species incidental to timber operations, which is why FGS applied for ITPs. See Theme Responses 6, 7, and 9.

KS Wild

February 3, 2010

Lisa Roberts
National Marine Fisheries Service
1655 Heindon Road
Arcata, CA 95521

RE: DEIS for Authorization for Incidental Take and Implementation of Fruit Growers Supply Company's Multi-Species Habitat Conservation Plan (DEIS AIT&I FGSC MSHCP).

> *"Over the term of the Permits, nearly all of the currently available habitat for northern spotted owl (sic) in the Plan Area could be harvested, with the exception of approximately 5,000 acres which are protected in CSAs. It is anticipated that the majority of timber harvest in the Plan Area would occur in the first 10 years of the HCP. During this first decade, the amount of northern spotted owl habitat modified due to FGS' harvest activities is estimated to be 20,700 acres."*
>
> *-FGS HCP, 6-59.*

Dear Ms. Roberts,

The Klamath-Siskiyou Wildlands Center ("KS Wild"), the Environmental Protection & Information Center (EPIC), Klamath Forest Alliance (KFA), Cascadia Wildlands, Oregon Wild, the Center For Biological Diversity (CBD), and the Shasta Chapter of the Sierra Club submit the following comments regarding the proposed Habitat Conservation Plan ("HCP"), Section 10 permit application, DEIS and Implementing Agreement submitted by Fruit Growers Supply Company (FGS) for the Northern Spotted Owl, Yreka Phlox, Coho & Chinook salmon and steelhead trout. Contact information for our organizations may be found at the conclusion of this document. ***Please send our organizations timely hard copies of the forthcoming Record of Decision (ROD) for this project when it becomes available.*** Thank you for the opportunity to provide comments on the DEIS and HCP.

BIASED PURPOSE AND NEED STATEMENT AND RANGE OF ALTERNATIVES.

The FGS HCP DEIS (at ES-2) indicates that the purpose and need of the HCP for the applicant (FGS) is to: (1) Identify cost-effective measure to mitigate and minimize incidental take of listed 1

species; and (2) To ensure the long-term economic feasibility of timber operations. The same page of the DEIS contends that the purpose and need of the HCP for the Services is to: (1) Conserve habitats during timber management; and (2) Comply with the Endangered Species Act.

This narrowly constrained purpose and need statement does not meet the requirements of NEPA, nor does it foster development of an HCP/ITPs that meet the requirements of the ESA. Further, the IA, HCP and DEIS provide clear indications that the HCP is primarily designed to primarily accomplish the financial objectives of the applicant while the identified "purpose and need" of the Services play a secondary role to the desires and preferences of the applicant. 1 cont'd

NEPA requires the agency to include a no action alternative as the environmental baseline for a project. 40 C.F.R. § 1502.14(c). However, NEPA also requires the agency to "rigorously explore and objectively evaluate all reasonable alternatives." *Id.* § 1502.12(a). In this case, the Services clearly failed to explore all reasonable alternatives. The agencies could have proposed other methods of achieving the stated purpose and need of the project. Many reasonable action alternatives were proposed by conservation organizations, Native American Tribes, and the EPA during project scoping. 2

It is inappropriate for the Services to avoid taking a "hard look" at faults in its Proposed Action by setting up "straw man" alternatives for comparison; alternatives completely at odds with policy objectives of protection and enhancement of natural resources. *Blue Mountains Biodiversity Project v. US Forest Serv.*, 229 F.Supp.2d 1140, 1146-47 (9th Cir. 2002). Disregarding other viable alternatives that would meet the purpose and need of the project is inconsistent with NEPA's requirement that a range of alternatives be considered in an environmental analysis. *California v. Block*, 690 F.2d 753. The existence of a viable but unexamined alternative ultimately renders an EIS inadequate. *Alaska Wilderness Recreation and Tourism v. Morrison*, 67 F.3d 723, 729 (9th Cir. 1995).

Please note that page 1-6 of the DEIS indicates that under the IA and HCP FGS is allowed to sell or transfer up to 10% of its holdings in the planning area without amending the terms of the HCP. Such a provision allows (and encourages) FGS to sell or transfer ownership of the very lands whose management would be constrained by the terms of the HCP and IA. Implementation of such an "escape clause" by FGS would directly inhibit attainment of the purpose and need of the Services, yet is allowed in the HCP. Additionally, the impacts of such a potential land sale or transfer, are not analyzed or disclosed in the DEIS. Further, this escape clause is present in all three of the action alternatives developed in the DEIS. 3

Please note that at page 1-11 the DEIS indicates that all developed alternatives would produce a "similar" "volume of timber." This is a particularly interesting statement given that the DEIS (page 2-3) acknowledges that given the applicant's current management practices (the No Action Alternative) "over time, it is expected that overall timber harvest levels would decrease as insufficient timber volume would remain on the forest landscape to maintain current harvest levels." Given that all action alternatives would produce a similar volume of timber to the present management strategy, and that the current rate of volume production is unsustainable, the agencies have not considered and developed the broad range of reasonable action alternatives that NEPA requires. 4

The DEIS makes clear that the economic preferences and desires of FGS were the primary driver of alternative development. Indeed, the agencies descriptions of all of the action alternatives in the DEIS make mention of the alternative's ability to meet the "required harvest volume" of the applicant. Please note that the DEIS contains no disclosure or analysis of what this "required harvest volume" might be, how it was calculated, or how it might differ from the current "unsustainable" level of logging conducted on FGS lands. For the purposes of NEPA and the ESA, there is no such thing as a "required harvest volume." The agencies have inappropriately elevated the economic desires of the applicant into a "requirement." The desire of FGS to maximize its profits while minimizing the ecological mitigation measures contained in the HCP is not in fact a "requirement" of any law. Yet the DEIS has subsumed alternative development, mitigation measures, and other legitimate potential purpose and needs for the project, to the undefined and undisclosed "required harvest volume" desired by the applicant. This is an interesting approach to alternative development given that the applicants current harvest levels are "unsustainable" and may "decline toward zero" in the future (DEIS page 4-55) should it continue with its current method of meeting the "required harvest volume." 5

In their "tracked changes" comments on the Draft November 2008 DEIS (page1-14), NMFS expressed concern that the authors of the DEIS should be "careful" of their "tone" when stating that "extensive interaction occurred with the applicant" in the development of the HCP. 6
Regardless of how the agencies subsequently adjusted the "tone" of the DEIS, the fact is that FGS (and their consulting firm CH2M HILL) defined the purpose, need, alternatives, and content of the HCP and DEIS. As stated on page 2 of the 4/3/09 Fruit Growers Draft EIS Work Plan, "CH2M HILL will prepare an introduction section for the EIS containing the Purpose and Need statement along with additional introductory material." While the Work Plan makes it clear that FGS, and FGS alone, was allowed to defined the scope of the purpose and need of the DEIS, in their Draft November 2008 DEIS (page 2-37) tracked comments NMFS expresses the concern that reference to the "applicants objectives" should be removed from the description of why additional alternatives were not developed and analyzed in the DEIS. Simply removing the phrase "applicants objectives" does not change the fact that the objectives of FGS were the sole controlling and limiting factor in determining the scope of action alternatives to be developed in the EIS. 7

Indeed, in their initial cover page for the DEIS, CH2M Hill clearly and honestly indicated that the document was "prepared for Fruit Growers Supply Company." Not for the federal agencies. Not for the public. The agencies wisely chose to edit (redact) that statement in the version of the DEIS that was sent to the public. The fact, however, is that the DEIS, its purpose and need, and its alternatives were designed for and by one entity, the Fruit Growers Supply Company. 8

It is important to note that the "HCP Handbook" for the US Fish and Wildlife Service encourages the involvement of adjacent federal landowners in HCP development especially when they are relied upon for mitigation of proposed incidental take permits. In the present case, all three of the developed action alternatives rely heavily on adjacent Forest Service lands as the primary mitigation measure for the (otherwise illegal) "taking" of Northern Spotted Owls on FGS lands. Indeed, the alternatives are based upon: (1) Supplementing Forest Service CHUs; or (2) Supplementing Forest Service LSRs; or (3) Providing foraging and dispersal habitat across FGS ownership to allow for habitat connectivity between Forest Service lands. All three action alternatives rely on Forest Service lands and mitigation. Yet the Forest Service was not involved whatsoever in preparation of the HCP, identification of mitigation measures, or in alternative 9

development. This may have contributed to the constrained range of alternatives whereby the agencies propose to meet the applicants "required harvest levels" while taking species listed under the ESA. 9 cont'd

While we will return to the failure to engaged the Forest Service in the "cumulative impacts," and "unforeseen circumstances" sections of these comments, it is important to note here that the extensive (or exclusive) reliance of all three action alternatives on Forest Service lands to mitigate the impacts of "take" on FGS lands may be misguided. Please note that in 2004, following the Biscuit fire, the Rogue-Siskiyou National Forest authorized extensive timber harvest in both LSRs and CHUs as part of its post-fire salvage logging effort. The RODs and EIS may be viewed at: 10

http://www.fs.fed.us/r6/rogue-siskiyou/biscuit-fire/rod.shtml

All of the three action alternatives rely exclusively on adjacent Forest Service habitat, blindly assuming that the habitat quality remains static. None account for the removal of that habitat via wildfire or post-fire logging. Two of the action alternatives rely primarily on the management of LSRs and CHUs on adjacent federal lands to mitigate the removal of occupied suitable habitat on FGS lands. As the Biscuit salvage logging ROD demonstrates, the Forest Service may elect to manage post-fire LSRs and CHUs for commodity production rather than for wildlife habitat.

The two alternatives (Proposed Action and A) that rely on "demographic support" of Forest Service NSO protection measures are so similar that they are essentially identical in their authorization of "take." The Proposed Action calls for killing (taking) the owls in 58 of 82 activity centers whereas Alternative A only calls for the death of owls in 57 of the 82 activity centers in the planning area. DEIS page 2-51. 11

Please note that in its 2005 guide to §10 of the ESA, the USFW Service indicates that "the views of independent scientists are important in the development and mitigation and minimizations measures in nearly all HCPs." Please see: 12

http://www.fws.gov/endangered/pdfs/HCP/HCP_Incidental_Take.pdf

We are able to find no indication in the DEIS that "independent scientists" (or the Forest Service) were involved in any way in "development" of the mitigation and minimization measures contained in the three, constrained, action alternatives developed by the Services.

Despite the clear requirements of the ESA that the applicant "minimize and mitigate" "to the extent practicable" the impacts of activities authorized via an ITP, the DEIS repeatedly presents the *minimum* environmental requirements of the California Forest Practices Act as tough-minded additional mitigation measures required by the agencies to mitigate "take" (that would otherwise be illegal). For instance, page 2-34 of the DEIS indicates that *all* class A and B watersheds established by the HCP correspond to the T&I watersheds in which similar aquatic conservation measures are currently required under the No Action Alternative. In other words, under none of the action alternatives are the geographic scope or underlying aquatic mitigation measures substantially different from what is currently required (without issuance of an ITP). The DEIS (at 2-34) acknowledges the similarity of the No Action Alternatives and (all of the) action alternatives, yet seeks to distinguish the "additional protection" measures of the proposed action as "implementation of the road management program" and "slope stability measures." These nominal "additional protection measures" look rather slim given that the DEIS (2-5) acknowledges that even under the no action alternatives (in which "take" is not authorized) "over 13

the next 50 years, nearly all road segments would be inventoried through the HCP process." In other words, the "implementation of the road management program" that represents the alleged "additional protection" measure over the no action alternative is really just a matter of timing. The alleged advantages of the accelerated timing requirements are particularly dubious given that the HCP road inventory and sediment reduction program would be implemented over the next 15 years (DEIS page 4-4). It is entirely possible, and perhaps even likely, that Coho and Spring Chinook will have been extirpated from the planning area prior to implementation of the "additional protections" called for in the HCP. 13 cont'd

As with their treatment of owls and salmon, the action alternatives are essentially identical in their treatment of Yreka Phlox. Indeed, the "analysis" for alternatives A and B (on page 4-30 of the DEIS) is identical: "Under Alternative [A or B] the applicant would exercise the precautions necessary to comply with the prohibitions on adverse impacts to listed plants described above for the No Action Alternative." Please note that under every alternative (including the proposed action) logging is allowed within the so-called "equipment exclusion zone" (EEZ), yet no analysis is provided as to the impacts of logging and yarding near, adjacent to, and in the EEZ for this species. 14

As stated in the "Alternatives Considered but Dismissed from Further Consideration" section of the DEIS found at pages 2-47 through 2-50, the agencies refused to develop or analyze any action alternatives that would issue ITPs that authorized less than 50 years of "taking" endangered species or that did not completely insulate the applicant from additional ESA listings, changed circumstances or unforeseen circumstances. Further, the agencies refused to develop or analyze a reasonable action alternative that would have implemented conservation measures or "coverage" for Pacific Fishers or at-risk amphibians. Such action alternatives are reasonable and should have been carried forth in the DEIS as part of the full suite of action alternatives that NEPA requires. 15

In addition to refusing to even develop (let alone implement) an action alternative that did not eliminate the possibility of reacting to unforeseen circumstances through allowing adaptive management changes to the HCP that are prohibited by the "no surprises policy," the agencies also refused to carry forward an HCP with a reduced permit term. (DEIS 2-48). A reduced permit term would have allowed for the agencies and the applicant to learn from and apply evolving science to changing conditions. Interestingly, in rejecting development of a 30-year permit term, the agencies cite the need to allow at least 50 years to grow mitigating mature habitat in the Grass Lake unit. Our organizations can find no requirement in the HCP or IA that the applicant continue to maintain this mature habitat once it is in fact developed after 50 years. What good does it do to insist on a 50 year permit term to allow for the development of mature habitat in the Grass Lake unit if FGS then has a financial incentive to harvest those lands as soon as they become mature at the end of the permit term? Once the HCP expires, those newly mature stands that were (belatedly) developed to "mitigate" for the accelerated harvest of actual suitable habitat providing actual benefits for actual owls in the first 10 years of the plan will be harvested. The agencies' contention (DEIS page 2-48) that they need not consider a reduced permit term because the HCP "contains several mechanisms for adjustments over the permit term" "that help address concerns about long-term flexibility" is misleading at best. At 8-14 the HCP clearly states that "additional conservation and mitigation measures shall not involve the commitment of additional land or financial compensation, or restrictions on the use of land or other natural 16

resources otherwise available for development or use under the original terms of the HCP without consent of the permit holder."

16 cont'd

A great number of substantive comments were provided by organizations, tribes, agencies and individuals during scoping that could have lead to the development and consideration of an adequate range of action alternatives in the DEIS. Yet the DEIS failed to carry forward any of the alternatives suggested by the public or to even substantively respond to the requests. For instance, a number of commenters requested development of a reasonable action alternative that did not include the controversial "no surprises" policy, yet the agencies refused. A number of commenters requested site-specific information and actions in the Beaver Creek watershed, yet none were provided. A number of commenters requested consideration of a bond to ensure funding of mitigation measures, yet none was discussed in the DEIS. Many commenters requested that information be included in action alternatives regarding adjacent THPs and Forest Service timber sales, yet none was provided. Most commenters requested development of an action alternative geared towards recovery of listed species, yet the action alternatives focus exclusively on preventing jeopardy to listed species. Your colleagues in the EPA requested that the EIS "look at alternatives that include different covered activities, species, land coverage and permit terms," all of which the agencies declined to do. Indeed, it could not be more clear that the only entity that was allowed to define and influence the scope and range of alternatives in the DEIS was the Fruit Growers Supply Company.

17

Despite requests during the scoping period, the agencies refused to develop an action alternative that would have provided coverage and protection measures for the Pacific Fisher, Siskiyou Mountains Salamander, Scott Bar Salamander, Southern Torrent Salamander, Tiger Salamander, Shasta Salamander and Cascades Frog. (DEIS page 2-48). Instead, the agencies only developed action alternatives to cover the species for which the applicant had indicated a desire to address. Interestingly, the agencies refused to develop this reasonable alternative because of: (1) a lack of species-specific data for fisher on the applicant's ownership; and (2) the non-listed nature of the amphibian species. Both rationales for refusing to develop a full range of action alternatives are spurious. NEPA and the ESA do not allow the agencies to reward the applicant for remaining ignorant of the status of Pacific Fishers on its lands. As will be discussed in the Pacific Fisher section later in these comments, the species has been found by the US Fish and Wildlife Service to be "warranted but precluded" for listing under the Endangered Species Act. Further, the contention that all of the amphibian species are unlisted is simply false. Both the Siskiyou Mountain Salamander and the Scott Bar Salamander are listed under the California Endangered Species Act. The proposed actions are located within the state of California. We remind the agencies that the request of your colleagues in the EPA to develop an action alternative that addresses these species ensures that the services will not be able to rely upon "agency deference" to evade the procedural requirements of NEPA to develop and consider a full range of reasonable action alternatives.

Please note that under all alternatives the current (unanalyzed) herbicide, pesticide and fertilizer application methods will continue to be utilized across the planning area.

18

While the agencies may limit the design of alternatives to those alternatives that meet the purpose and need identified for the project, the courts have repeatedly reprimanded NEPA planners for formulating a purpose and need so as to exclude other alternatives. "An agency may

19

not define the objectives of its action in terms so unreasonably narrow that only one alternative ... would accomplish the goals of the agency's action, and the EIS would be a foreordained formality." Sierra Club v. Robertson, 845 F. Supp. 485, 500 (S.D. Ohio 1994); Citizens Against Burlington, Inc. v. Busey, 938 F.2d 190, 196 (D.C. Cir. 1991), cert denied 502 US 994, 112 S. Ct. 616 (1991). The Seventh Circuit has stated:

No decision is more important than that delimiting what these "reasonable alternatives" are ... One obvious way for an agency to slip past the structures of NEPA is to contrive a purpose so slender as to define competing "reasonable alternatives" out of consideration (and even out of existence) ... If the agency constricts the definition of the project's purpose and thereby excludes what truly are reasonable alternatives, the EIS cannot fulfill its role.
-Simmons v. United States Army Corps of Engineers, 120 F.3d 664, 660 (7th Cir. 1997). 19 cont'd

The highly restricted range of alternatives evaluated and considered in the DEIS violates the very purpose of NEPA's alternative analysis requirement: to foster informed decision making and full public involvement. 42 USC §101; 42 USC §102(2)(E); 40 CFR §1508.9(b); Robertson v. Methow Valley Citizen's Council, 490 US 332, 349 (1989).

"Compliance with (NEPA) is a primary duty of every federal agency; fulfillment of this vital responsibility should not depend on the vigilance and limited resources of environmental plaintiffs." City of Carmel-By-The-Sea, 123 F.3d at 1161; see also City of Davis v. Coleman, 521 F.2d 661, 671 (9th Cir. 1975). As the Seventh Circuit has noted, "(w)hat other alternatives exist we do not know, because the (government) has not looked." Simmons v. United States Corps of Engineers, 120 F.3d 664, 670 (7th Cir. 1997).

FAILURE TO ANALZE OR DISCLOSE SIGNIFICANT IMPACTS.

In many ways, the DEIS (and HCP) reads more like a public relations document for the Fruit Growers Supply Company than a searching “hard look” at the environmental consequences of “taking” at-risk species and their habitat. Given that the HCP was written by a private contractor (CH2M HILL) employed by FGS, this is not entirely surprising. What is perhaps surprising is the decision of the agencies to act as cheerleaders, rather than regulators, of the “taking” of species listed under the Endangered Species Act. Throughout the DEIS the risks and unavoidable impacts of the proposed action are obfuscated and downplayed while the desires and preferences of FGS are catered to. The DEIS does not provide a hard look or searching inquiry into many of the potentially significant environmental impacts of the political decision to immunize FGS from the Endangered Species Act for the next 50 years. 20

The 4/3/08 Fruit Growers Draft EIS Work Plan is quite clear that the agencies punted their NEPA duty to identify, analyze, and disclose significant environmental impacts to the applicant’s paid consulting company. Page 2 of the Work Plan indicates that “CH2M HILL will review information from other sources and determine the need to consider other special status-species…CH2M HILL will describe habitat conditions and potential effects on these additional species.” Indeed the Work Plan (2) goes as far as to indicate (prior to commencement of the document) that “the analysis of the potential impacts to other wildlife species is expected to be qualitative.” Hence, the agencies not only passed all of their NEPA duties regarding the requisite “hard look” at the impacts to sensitive species along to the applicants consulting firm, they also

directed that the biased "analysis" of such impacts should be qualitative rather than quantitative. This explains why the sensitive species section (like the rest of the DEIS) lacks any actual numbers or substantive analysis of population figures regarding the impacts of HCP implementation on sensitive species. Similarly, page 3 of the 4/3/08 Work Plan directs that "CH2M HILL will consider potential secondary consequences resulting from changes in hydrologic and water quality conditions such as flooding and water supply impacts." The same page indicates that "CH2M HILL will review information from other sources and determine the need to consider other special-status fish species in the EIS." "CH2M HILL will describe habitat conditions and potential impacts to other fish species. At this time, the potential impacts to other fish species is expected to be qualitative." One is left to wonder if the agencies actually analyzed anything at all in the DEIS, or if their role was solely confined to directing the contractor not to disclose any quantitative data or information regarding the environmental impacts of the HCP. 20 cont'd

NEPA emphasizes "coherent and comprehensive up-front environmental analysis" to ensure an agency "will not act on incomplete information, only to regret its decision after it is too late to correct." *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1216 (9th Cir. 1998), *cert. denied*, 527 U.S. 1003 (1999) *quoting Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989); *see also Foundation on Economic Trends v. Heckler*, 756 F.2d 143, 157 (D.C. Cir. 1985) ("The NEPA duty is more than a technicality; it is an extremely important statutory requirement to serve the public and the agency *before* major federal actions occur.") (emphasis in original).

The agencies (DEIS page 1-10) elected not to address, analyze, or disclose the impacts of herbicide and fertilizer use by FGS in the planning area on human health, water quality, salmon, steelhead, amphibians, or special status species. The statement on page 2-6 of the DEIS that "the applicant periodically applies herbicides" neglects to inform the public or the decision maker of the timing, location, quantity, type, synergy, and potential impacts of this practice on terrestrial and aquatic forest resources and on human health and safety. 21

The DEIS (4-31) acknowledges that (un-quantified impacts from) "activities such as [water] drafting from streams for dust abatement (potentially injuring or killing individuals suctioned up with the water and/or potentially damaging or destroying the incubating eggs of such species) have the potential to impact larger groups of individuals." Yet the DEIS fails to take a hard look at the direct, indirect, or cumulative impacts of the water drafting activities of FGS. No numbers or locations regarding this activity are provided. No assessment of the effectiveness of mitigation measures is attempted. No disclosure of the amount, timing, or impacts of drafting on water quantity is presented. The reference in the DEIS to undefined and unanalyzed "strict" guidelines that would allegedly "limit" the impacts of water drafting reads more like editorializing or advocacy than an independent hard look at the environmental consequences of removing water from water-quantity limited watersheds such as the Scott River. What are these "strict" guidelines? What defines them as "strict" rather than "lenient?" Why do the agencies feel compelled to editorialize, rather than disclose, the effectiveness of the guidelines and the impacts of this practice on water quantity, timing and quality? The DEIS (page 3-62) blithely states that the amount and timing of water drafting by the applicant are "unquantified" under the "strict" guidelines of which the agencies are so enamored. NEPA and the ESA require that if the applicant and the agencies wish to "take" listed Coho that they must quantify the impacts of practices like water drafting on water quantity, quality and timing. 22

Our organizations hereby submit the following URL links regarding the water quality and quantity problems associated with water withdrawal in the Scott and Klamath watersheds to the agencies as part of the Administrative Record for this DEIS HCP process:

http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2009/09/13/MN5I19CVKD.DTL&type=green

http://www.contracostatimes.com/california/ci_13426809?nclick_check=1

http://seattletimes.nwsource.com/html/localnews/2001993805_fishkill31m.html

http://www.klamathriver.org/media/pressreleases/Press-Release-081909.html

http://www.klamathriver.org/tribs/SOSS.html

22 cont'd

The DEIS contains no discussion or analysis of the ability of FGS to follow through with the financial commitments necessary to implement the mitigation measures, surveys, and monitoring that allegedly mitigate the agencies' political decision to exempt the applicant from the requirements of the ESA. Please note that several scoping comments questioned the ability of FGS to pay for the proposed mitigation, monitoring and survey efforts over time and suggested that the agencies require the posting of a substantial bond prior to issuing ITPs for listed species and their habitat. The agencies elected not to address this request in the DEIS. Please note that §10(a)(2)(B)(iii) of the ESA requires an HCP to assure adequate funding over time. Please further note that the DEIS (page 4-55) acknowledges that the current management practices of the applicant are "unsustainable" and that harvest in the future under the No Action Alternative could "decline towards zero." Yet every action alternative calls for a similar rate of timber harvest as the current "unsustainable" harvest rate that may "decline towards zero." Indeed, now the Services propose to prop-up the unsustainable harvest practices of FGS by allowing "the applicant to harvest more of the currently suitable NSO habitat on its ownership." (DEIS 2-18). Yet the agencies refused to analyze or disclose the financial ability of FGS to successfully implement the HCP over the next 50 years.

23

Indeed, this DEIS provides the very first NEPA "socioeconomic" analysis we have read conducted entirely free from details such as "numbers" or "math." Prior to this analysis, we had not known it was possible (or desirable) to analyze the socioeconomics without reference to economic figures and projections. How much timber will be produced under the various alternatives? How much will mitigation, monitoring and survey requirements cost to implement? What is the relative economic value of the current suitable habitat to be logged versus the hypothetical suitable habitat to be grown sometime in the future? How much will the proposed road maintenance activities cost? How will that expense be funded? Is FGS economically viable over a 50-year time frame? What are the socioeconomic values (including dollar values) associated with the continued survival of Coho, Chinook or Steelhead to fishermen and local Native American Tribes? It is not surprising that these, and many other "socioeconomic" questions, lack answers in a DEIS that was written not to take a hard look at difficult resource questions, but as a justification for a sweetheart political deal with the applicant.

24

In their November 2008 Draft DEIS tracked comments (page 4-20), NMFS indicated that the DEIS should disclose how many MBF the applicant harvests a year and the impacts of the HCP/ITP on those numbers. Nevertheless, such numbers were never included in the DEIS, instead the "analysis" relies entirely on the undisclosed and undefined "financial targets" of the applicant.

25

Throughout the DEIS the Services claim that by allowing and encouraging FGS to "harvest more of the currently suitable NSO habitat on its ownership" (resulting in "take") that the applicant "would reduce the amount of even-age regeneration harvest (clearcutting) necessary to meet financial targets." (See DEIS page 2-18). Yet nowhere in the DEIS are these "financial targets" defined, quantified or analyzed. Further, we are able to find no references in NEPA or the ESA to the primacy of an applicants "financial targets" as the benchmark for compliance with federal law. But the action alternatives in the DEIS are designed, and constrained, so as to achieve the undefined and undisclosed "financial targets" that are the real driver for this proposal.

In addition to repeated references to an undefined and undisclosed "timber harvest target," the DEIS is also replete with literally dozens of references to a hypothetical future habitat that may be created (and then harvested) to mitigate for the immediate removal of actual habitat that is being used now. The agencies decision to prioritize the economic desires of the applicant and reference hypothetical future habitat creation does not eliminate or lessen the NEPA requirement that the agency take a hard look at the impacts of its proposed actions.

25 cont'd

Please see Blue Mountains Biodiversity Project v. Blackwood, 161 F.3d 1208, 1213 (9th Cir. 1998).

The following excerpt from Blue Mountains may be of interest to you:

> Despite its lack of data, the Forest Service asserts throughout the EA that the expected level of increased erosion and sediment delivery will be small in comparison to that caused by the fire. Whether the increased erosion from logging and roadbuilding is smaller or larger than that produced by the fire is irrelevant. The proper evaluation should identify the impact of the increased sediment from the logging and roadbuilding on the fisheries habitat in light of the documented increases that already have resulted from the fire.
>
> We have warned that "general statements about "possible" effects and "some risk" do not constitute a "hard look" absent a justification regarding why more definitive information could not be provided." Neighbors of Cuddy Mountain v. United States Forest Service, 137 F.3d 1372, 1380 (9th Cir.1998).

Please note, once the ITPs are issued to allow take, section 8.6 of the Implementing Agreement will prohibit the public from utilizing the Freedom of Information Act (FOIA) to monitor how, when, where, and if HCP mitigation measures are funded. Just as with the socioeconomic "analysis" in the DEIS, implementation and monitoring of the funding of HCP mitigation measures consists of a "black box" into which the public is not allowed to look.

26

> "Monitoring plans for HCPs should establish target milestones to the extent practicable, or reporting requirements throughout the life of the HCP and should address actions to be taken in case of unforeseen or extraordinary circumstances."
>
> -Habitat Conservation Plans, Section 10 of the Endangered Species Act, USFWS 2005. Http://www.fws.gov/endangered/hcp/

The DEIS is virtually silent as to how the applicant would address unforeseen circumstances, changed conditions and implement adaptive management over the 50-year life of the HCP. 50 CFR 17.22(b)(1)(iii)(B) necessitates that procedures must be identified, and their effectiveness

27

disclosed, to address unforeseen circumstances in light of the agencies' predilection for insulating corporations from the ESA via the "no surprises" policy. 27 cont'd

Analysis regarding the Pacific Fisher (DEIS 4-48) assumes that Fisher will benefit from increased NSO suitable habitat over time yet fails to analyze, disclose or quantify the impacts of the removal of currently suitable habitat that this HCP is designed to facilitate. 28

Page 2-29 of the DEIS indicates that the Services intend to allow for salvage logging within so-called "Conservation Support Areas" (CSAs) (as well as WLPZs and SMZs) that allegedly provide the conservation mitigation backbone for the "take" and logging of currently occupied NSO suitable habitat. Yet the DEIS is completely silent as to the (scientific controversy and) impacts of post-disturbance salvage logging on NSO and their prey base. The agencies' decision to avoid analyzing or disclosing the impacts of salvage logging (particularly in CSAs) on Spotted Owls is curious given the recent reviews of Forest Service salvage logging activities by the Yreka office of the US Fish and Wildlife Service. Please see the "salvage logging" section of these comments (below) for more on this topic. 29

At page 3-22 the DEIS acknowledges that the Scott River is 303(d) listed for sediment and temperature. Yet the DEIS contains no discussion or disclosure of the requirements of FGS under the TMDL for the Scott River. 30

Similarly, on page 3-45 of the DEIS the agencies reference the 2006 Recovery Plan for the Yreka Phlox, yet again the substance of that recovery plan, and the applicant's responsibilities under the plan are neither disclosed nor analyzed. 31

Rather than fully analyze or disclose the salmon habitat conditions in the planning area in the DEIS, the agencies largely punt that "analysis" to FGS's paid private contractor CH2M HILL via the HCP: "For a more detailed discussion of aquatic habitat conditions in the Plan Area, see Section 4.8.5 of the proposed HCP." DEIS, 3-50. 32

The agencies contend (DEIS page 3-50) that "detailed information on aquatic habitats within the Plan Area is limited," yet no attempt was made to gather, collect or assemble this information. Do the agencies contend that detailed salmon habitat information is immaterial to their decision to issue take permits, over the next 50 years, for activities that may harm listed Coho salmon and their habitat? " Similarly, the DEIS simply contends that information regarding the impacts of Covered Activities on Pacific Fishers and rare salamanders is hard to come by and therefore needn't be disclosed or analyzed. In general, NEPA imposes a duty on federal agencies to gather information and do independent research when missing information is 'important,' 'significant,' or 'essential' to a reasoned choice among alternatives." Oregon Environmental Council v. Kunzman, 817 F.2d 484, 495 (9th Cir. 1987), quoting Save our Ecosystems v. Clark, 747 F.2d 1240, 1244 n. 5, 1248-49 (9th Cir. 1984). 33

Page 3-62 of the DEIS indicates that 14 of the 56 road crossings of fish-bearing streams identified by FGS on their lands are of "unknown status." Why is this? Could not the applicant or the agencies visit these 14 sites to determine if they present barriers to fish passage? Would not such information directly inform the environmental analysis required of the DEIS? Why did the agencies not seek out, and disclose, this information? 34

The DEIS relies on assumptions and guesswork rather than surveys and hard data to summarily dismiss impacts of the HCP on special status species and their habitat. The population dynamics 35

of these species are simply ignored by the agencies in their eagerness to issue a 50 year HCP containing a "no surprises policy" that will prohibit additional site-specific protection measures that may be essential for these species in the future. No surveys were conducted for Great Grey Owls (DEIS page 3-68). No surveys were conducted for Long-Legged or Long-Eared Myotis (DEIS page 3-71). No surveys were conducted for Southern Torrent Salamanders (DEIS 3-77). The presence of Northern Red-Legged Frogs, Foothill Yellow-Legged Frogs and Pacific Lamprey is unknown (DEIS page 3-78). It does not appear that surveys were conducted for Gentner's Fritillary (DEIS page 3-79). 35 cont'd

In the HCP (3-33) the applicant states that it "chooses not to include the Siskiyou Mountains salamander as a Covered Species because it is not federally listed, and because little is known about the species' presence and use of the FGS ownership, such that effects of the Covered Activities cannot be evaluated, nor a meaningful conservation program developed for this species. The HCP contains identical language regarding the Scott Bar Salamander. Given that the HCP states that "effects of the Covered Activities cannot be evaluated," do the agencies contend that the DEIS discloses and analyzes the cumulative and direct impacts of the Covered Activities on these species? Do the agencies contend that the survey and manage program of the Northwest Forest Plan (which includes buffers for these species) is not a "meaningful conservation program?" Could not a similar pre-disturbance survey requirement in suitable habitat be required on FGS lands in order to in fact determine the "effects of Covered Activities" on these species? 36

Similarly, the HCP (3-33) indicates that "because so little is known about fishers' use of the FGS ownership effects of the Covered Activities cannot be evaluated." And sure enough, the cumulative (and direct) impacts analysis contained in the DEIS fails to fully analyze or disclose the impacts of Covered Activities on Pacific Fisher. 37

The DEIS assumes (without analysis or documentation) that by allowing and encouraging the applicant to "harvest more of the currently suitable northern spotted owl habitat in the Plan Area" that there will be a corresponding decrease in the level of clearcutting necessary to meet FGS' "financial targets." (DEIS page 4-9). Indeed, this hypothetical reduction in clearcutting is relied upon by the agencies to conclude that the Proposed Action could "contribute to maintenance or improvement of existing hydrologic conditions." (Ibid). As discussed previously, no documentation or analysis is presented in the DEIS regarding the nature, amount or methodology of the "financial targets" that drive this planning process. What is to prohibit FGS from harvesting more of the currently suitable NSO habitat while also increasing the rate of clearcutting? Certainly nothing in the Implementing Agreement prohibits this. Upon what, other than the mysterious and undefined "financial targets" do the agencies base their assumptions regarding the impact of HCP implementation on the rate of even-age harvest? 38

We recognize that FGS is threatening a "substantial amount of clearcutting in the first three decades" under the No Action Alternative (DEIS page 4-17) should it not be granted a license to kill endangered species via this HCP. We also were intrigued by the statements of FGS representative Charlie Brown at the 12/2/09 open house in Yreka suggesting that if the applicant were not provided an ITP by the agencies that it would seek to salvage log currently protected NSO habitat after the first natural disturbance and never allow it to grow back into suitable habitat. While these threats and statements are certainly instructive as to the intentions and mind-set of the applicant, their implications are neither disclosed nor analyzed in the DEIS itself. Why 39

is this? What prevents the applicant from receiving ITPs while also increasing the amount of clearcutting in the first three decades? What prevents the applicant from receiving ITPs and also pursuing aggressive salvage logging after natural disturbance events? There is nothing in the Implementing Agreement or HCP to prohibit such a "lose-lose" outcome. Further, Why have the agencies not fully analyzed and disclosed the "sustainability" of FGS harvest plans under all action alternatives? This would seem to be essential given that under the applicant's current management "it is expected that overall harvest levels would decrease as insufficient timber volume would remain on the forest landscape to maintain current harvest levels." (DEIS 2-3). Further all alternatives are designed to produce a similar amount of timber as the No Action Alternative with the immediate increased harvest of suitable NSO habitat providing a short-term boost to the applicants unsustainable harvest practices. 39 cont'd

The DEIS (page 4-25 through 4-26) fails to fully analyze or disclose the impact, timing, and effect of authorizing "take" of 44 NSO activity centers. 40

While page 4-42 of the DEIS acknowledges that the reduction of suitable nesting habitat called for under Alternative B "could result in reduction of Goshawk populations" the DEIS fails to quantify the effects of such habitat reduction on this, or any other species. 41

The assumption on page 4-48 of the DEIS that Pacific Fisher would benefit from hypothetical future increased NSO habitat in the planning area fails to analyze or disclose the impacts of accelerated suitable habitat logging during the first three decades of the five decade HCP. It also fails to analyze the impacts of logging 35,000 out of 40,000 acres of currently suitable habitat over the term of the Plan. 42

The surprising contention on page 4-26 of the DEIS that "general forest management" aids NSO populations and reduces fire hazard is unsupported by any citation and runs counter to the vast body of peer-reviewed literature regarding the impacts of industrial plantation rotation forestry on NSO populations and fire hazard. 43

Numerous recent studies, such as Ligon et al. (1999), Dunne et al., (2001) and Collison et al. (2003), have explicitly pointed out that California FPRs have failed to protect Pacific salmon species because timber harvests are looked at individually and not in conjunction with all activities in a watershed. Dunne et al. (2001) described cumulative effects as follows:

> "Generally speaking, the larger the proportion of the land surface that is disturbed at any time, and the larger the proportion of the land that is sensitive to severe disturbance, the larger is the downstream impact. These land-surface and channel changes can: increase runoff, degrade water quality, and alter channel and riparian conditions to make them less favorable for a large number of species that are valued by society." 44

Dunne et al. (2001) warn that at risk populations can be lost, if cumulative effects are ignored and anthropogenic stressors continued:

> "The concern about cumulative effects arises because it is increasingly acknowledged that, when reviewed on one parcel of terrain at a time, land use may appear to have little impact on plant and animal resources. But a multitude of independently reviewed land transformations may have a combined effect, which stresses and eventually destroys a biological population in the long run."

Extensive channel damage, reduced large wood, lack of pools, high fine sediment levels and warm water temperatures plague the Scott River and its tributaries and Middle Klamath tributaries (Kier Associates 1991, 1999, QVIC 2008, 2009). Timber harvest in more than 25% of the watershed area of Oregon Coastal basins in less than 30 years caused loss of aquatic habitat diversity and fish communities to become dominated by one Pacific salmon species (Reeves et al. 1993). There is no discussion of prudent risk limits to harvest and the extensive clear cutting allowed for under the FGS HCP. Change scene detection from Landsat images (Fischer 2003) in the Pat Ford Creek watershed, where FGS has major holdings, was more than 15% logged between 1994 and 1998 alone and the same imagery and extensive timber harvest in riparian zones of French Creek are evident, both of which imply very adverse activities with regard to salmonid conservation (QVIC 2005, 2006). 44 cont'd 45

FGS and NMFS must begin to factor in rising snow level elevations (Van Kirk and Naman 2008,) and the potential for rain-on-snow events at much higher elevations (de la Fuente and Elder 1998). Jones and Grant (1996) found that roads increased the effective stream network and runoff, resulting in damaging elevated peak flows. Patterns of high road densities in the rain-on-snow zone posed even greater risk, and many FGS areas of high road density are at high elevations. The January 1997 storm exhibited rain-on-snow up to 7,000 feet in the Klamath Mountains (de la Fuente and elder 1998), which is above the normal zone of 3500-5000 feet. Potential from damaging peak flows due to rain-on-snow events is known to increase with clear cuts and high road densities at susceptible elevations (Harr 1979). In the Middle Klamath and Scott River basin Van Kirk and Naman (2008) found that the snow level has risen approximately 1,000 feet over the last 50 years as a result of climate change. Consequently, risk of peak flows related to cumulative effects from timber harvest and other land use activities should now factor in high elevation bedrock or naturally sparse vegetation areas that tend to build up snow packs that will now contribute to rain-on-snow driven higher peak flows. There is little discussion of this factor, but the location of FGS properties at higher elevation make this a critical shortcoming and activities are likely to contribute to increased peak flows and diminished base flows (Montgomery and Dietrich 1993). While maintaining high road density prolongs the window of risk, pulling culverts and decommissioning roads has been shown to lessen channel damage and to promote salmon recovery (Harr and Nichols 1993). Tribal comments on the Klamath TMDL (QVIC 2006, 2008, Karuk Tribe 2008) provide greater detail on the levels of prudent risk for watershed management. 46

Although there is little discussion of the use of pesticides and herbicides associated with post-harvest activities to control competing vegetation, NMFS (2008) in a biological opinion to the U.S. Environmental Protection Agency has found that a number of substances routinely used are toxic to salmonids. 47

NO ACTION ALTERNATIVE.

Development and analysis of a No Action Alternative is a requirement of NEPA designed to ensure that the agencies (and the public) have an accurate baseline with which to compare the action alternatives. As such, it is essential that the No Action Alternative present an accurate "snapshot" of current FGS practices and current environmental conditions. NEPA requires the 48

agency to include a no action alternative as the environmental baseline for a project. 40 C.F.R. § 1502.14(c).

Unfortunately, the fawning description of FGS activities in the No Action Alternative reads like a press release rather than a searching inquiry based on observation of actual practices as they really occur. For instance, on page 2-4 of the DEIS (and repeated throughout) the agencies contend that under the No Action Alternative:

> "All logging roads and landings on the ownership or under the control of the applicant within the Plan Area would be planned, located, constructed, reconstructed, used and maintained in a manner that is consistent with long-term enhancement and maintenance of the forest resource; best accommodates appropriate yarding systems, and economic feasibility; minimizes damage to soil resources and fish and wildlife habitat; and prevent degradation of the quality and beneficial uses of water."

48 cont'd

This glowing account of FGS management activities is simply not based in reality. Numerous field visits to Forest Service and FGS projects in the Scott River and Klamath Province checkerboard land holdings by KS Wild staff and volunteers regularly and routinely result in observations of FGS roads, landings and skid trails that in no way whatsoever minimize damage to soil resources and fish and wildlife habitat or prevent degradation of the quality and beneficial uses of water.

The description of the No Action alternative in the DEIS largely avoids disclosing the impacts of ground-based yarding practices on soil compaction and sediment production, the cumulative and site-specific impacts of road densities and culverts on water quality and peak flows, or the impacts of clearcut forestry and plantation establishment on fire hazard and fire suppression. Similarly, the DEIS neglects to reveal the timing, methodology, frequency or impacts of herbicide and fertilizer applications on the applicants forestlands. While the DEIS (pages 2-34 through 2-36) discloses the presence of shallow and deep seeded mass wasting hazards, the impacts of current FGS harvest practices on these features is largely ignored. Similarly, the amount and impacts of water drafting by the applicant under the No Action alternative is "unquantified." (DEIS page 3-62.) While the DEIS (page 4-55) does disclose that current FGS harvest levels are "unsustainable" and may "decline toward zero" under the No Action Alternative, the reasons why the harvest is unsustainable are left unsaid and the environmental and economic implications of the current unsustainable rate of harvest are largely undisclosed.

49

CUMULATIVE EFFECTS ANALYSIS.

The DEIS fails to fully disclose and adequately evaluate the cumulative impacts of the Proposed Action. In determining whether a project will have significant impact on the environment, an agency must consider "[whether] the action is related to other actions with individually insignificant but cumulatively significant impacts." 40 C.F.R. §1508.27(b)(7). Under NEPA, "significance exists if it is reasonable to anticipate cumulatively significant impacts on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts." *Id.* 40 C.F.R. § 1508.27(b)(7). Furthermore, NEPA requires the agency to evaluate "cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts," and to discuss them in the same impact statement. *Id.* § 1508.24(a)(2). The DEIS does not consider the cumulative impacts of the Proposed Action

50

combined with other past, current, and foreseeable future projects, including THPs, federal timber projects, livestock grazing, herbicide use, mining projects, off-road vehicle use, and other management activities that could contribute to cumulative impacts to the terrestrial and aquatic values in the planning area.

"The general rule under NEPA is that, in assessing cumulative effects, the [EIS] must give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these projects, and differences between the projects, are thought to have impacted the environment." *Lands Council* 395 F.Supp. at 1028. Vague or general statements of impact are not sufficient; impact from projects must be discussed on an individualized basis. *Id.* Without detailed or quantified information, "neither the courts nor the public, in reviewing [a] decision, can be assured that the Forest Service provided the hard look that it is required to provide." *Cuddy Mountain* 137 F.3d at 1379. The disclosures and analysis on the cumulative impacts of the PNR-IPP is inadequate and fails to meet NEPA's requirement for high quality scientific analysis that would satisfy the "hard look" standard. *Robertson*, 490 U.S. at 353; *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208 (9th Cir. 1998) *cert. denied, Malheur Lumber Co. v. Blue Mountains Biodiversity Project*, 119 S.Ct. 2337 (1999). The disclosures and analysis also fail to meet the requirement for high quality scientific analysis as required by 40 C.F.R. § 1502.22.

While we often refrain from providing legal citations at this stage of the NEPA process, since our substantive site-specific scoping comments had no discernable influence whatsoever on alternative development we are left to conclude that public comments/concerns and scientific controversy are immaterial to the NEPA process for this HCP. Should the Services continue to ignore or steamroll our concerns, the following case law will come into play: 50 cont'd

In 2004, the Ninth Circuit rejected two Environmental Assessments because of their inadequate cumulative effects analysis. Klamath-Siskiyou, 387 F.3d at 989. In Klamath-Siskiyou, the court found that, although each EA contained more than a dozen pages under the heading "Cumulative Effects," with charts, tables, and a different section titled "Future Foreseeable Actions," the analysis failed to provide the detail and objective quantification required by NEPA. *Id.* at 994-995.

> [T]he problem…is that it does not provide any objective quantification of the impacts. Instead, the reader is informed only that a particular environmental factor will be "unchanged," "improved," or "degraded" and whether that change will be "minor" or "major." The reader is not told what data the conclusion was based on, or why objective data cannot be provided. Such an analysis does not satisfy the admonition in Neighbors of Cuddy Mountain that '[g]eneral statements about possible effects and some risk do not constitute a hard look absent a justification regarding why more definitive information could not be provided.' 137 F.3d at 1380.
> *Id.* at 994 (internal citation included).

The Court held that a list of future projects in the area and a calculation of the total number of acres to be harvested in the watershed "is a necessary component of a cumulative effects analysis, but it is not a sufficient description of the actual environmental effects that can be expected from logging those acres." *Id.* at 994-995. Regarding roads, the Court held that "while a tally of the total road construction anticipated in the [affected] watershed is definitely a good start to an adequate analysis, stating the total miles of roads to be constructed is similar to

merely stating the sum of the acres to be harvested - it is not a description of actual environmental effects." *Id.*

In 2005, the Ninth Circuit revisited the issue of an agency's cumulative effects analysis, and again held that, despite being several pages long, the analysis was inadequate. The Lands Council v. Powell, 395 F.3d 1019 (9th Cir. 2005).

> The Final Environmental Impact Statement generally describes the past timber harvests, gives the total acres cut, with types of cutting, per decade, and asserts that timber harvests have contributed to the environmental problems in the Project area. But there is no catalog of past projects and no discussion of how those projects (and differences between the projects) have harmed the environment. Apart from a map in the Project file that shows past harvests, with general notes about total acres cut per watershed, there is no listing of individual past timber harvests. Moreover, there is no discussion of the connection between individual harvests and the prior environmental harms from those harvests that the Forest Service now acknowledges. Instead, the Final Environmental Impact Statement contains only vague discussion of the general impact of prior timber harvesting, and no discussion of the environmental impact from past projects on an individual basis, which might have informed analysis about alternatives presented for the current project.
> *Id.* at 1027.

> When we consider the purposes that NEPA was designed by Congress to serve, what was done here is inadequate. Congress wanted each federal agency spearheading a major federal project to put on the table, for the deciding agency's and for the public's view, a sufficiently detailed statement of environmental impacts and alternatives so as to permit informed decision making. The purpose of NEPA is to require disclosure of relevant environmental considerations that were given a "hard look" by the agency, and thereby to permit informed public comment on proposed action and any choices or alternatives that might be pursued with less environmental harm. To this end, we have previously held that NEPA requires adequate cataloguing of relevant past projects in the area. Muckleshoot Indian Tribe v. United States Forest Serv., 177 F.3d 800, 809-10 (9th Cir.1999)
> *Id.* (internal citation included).

50 cont'd

> Here, while the Final Environmental Impact Statement discloses tables with types of past harvesting, there was no inclusion of the specific projects that comprise the totals. Though the Forest Service asserts that the Final Environmental Impact Statement had a "comprehensive accounting" of past timber harvests, in fact the prior harvests from different projects were not separately discussed, neither as to their method of harvest, nor as to the consequences of each. Although the agency acknowledged broad environmental harms from prior harvesting, the data disclosed would not aid the public in assessing whether one form or another of harvest would assist the planned forest restoration with minimal environmental harm. For the public and agency personnel to adequately evaluate the cumulative effects of past timber harvests, the Final Environmental Impact Statement should have provided adequate data of the time, type, place, and scale of past timber harvests and should have explained in sufficient detail how different project plans and harvest methods affected the environment. The Forest Service did not do this, and NEPA requires otherwise. Muckleshoot, 177 F.3d at 809-10.
> *Id.* at 1028 (internal citation included).

Most recently, in July of 2007, the Ninth Circuit reaffirmed its holdings in Klamath-Siskiyou and Lands Council. Brong, 492 F.3d at 1120. In Brong, the Court held that there are "two critical features of a cumulative effects analysis." *Id.* at 1133.

> "First, it must not only describe related projects but also enumerate the environmental effects of those projects. See Lands Council v. Powell, 395 F.3d 1019, 1028 (9th Cir.2005) (holding a cumulative effects analysis violated NEPA because it failed to provide "adequate data of the time, place, and scale" and did not explain in detail "how different project plans and harvest methods affected the environment"). Second, it must consider the interaction of multiple activities and cannot focus exclusively on the environmental impacts of an individual project. See Klamath-Siskiyou, 387 F.3d at 996 (finding a cumulative effects analysis inadequate when "it only considers the effects of the very project at issue" and does not "take into account the combined effects that can be expected as a result of undertaking" multiple projects).
> *Id*. (internal citation included).

The cumulative effects "analysis" contained in the DEIS meets *none* of the legal criteria outlined above. Indeed, the cumulative effects analysis appears designed to downplay and obfuscate, rather than disclose and analyze, the cumulative impacts of industry and agency actions on key resources values. For instance, the contention at 5-14 that "CFPRs would continue to minimize the potential for soil compaction and management-related surface erosion within harvest units" constitutes propaganda rather than meaningful analysis. The effectiveness, frequency, location and impacts of actual harvest mechanisms are neither disclosed nor analyzed.

Indeed, the cumulative effects "analysis" contains no acreage figures or site-specific analysis whatsoever. No Forest Service timber sale projects are mentioned. No FGS THPs are discussed. No habitat or wildlife population numbers, studies or trends are disclosed. 50 cont'd

Page 5-26 of the DEIS reveals that "NMFS does not believe that the existing CFPRs, broadly applied on California's private timberlands adequately protect SONCC coho salmon habitat or provide fro properly functioning habitat conditions." Yet the DEIS makes no attempt to describe actual (past or planned) actions in the planning area that are impacting SONCC salmon or their habitat. How many THPs are proposed? How many have occurred? How many acres of riparian habitat are being impacted by the THPs? How much SONCC habitat is being impacted? How many fish are being harmed? Is take occurring? These are the questions that a cumulative effects analysis must address.

The discussion of cumulative impacts to Pacific Fishers and their habitat at page 5-32 of the DEIS fails to disclose the impacts, acreage or location of the effects of logging currently protected occupied NSO activity centers on Fisher individuals or populations.

Despite the decision of the US Fish and Wildlife Service to withdraw its illegal 2008 reduction of NSO critical habitat by approximately 25% across its range, the cumulative effects "analysis" contained in the DEIS (5-35) continues to rely on the reduced CHU habitat numbers. This reliance on illegal (and discounted) analysis and decisions is present throughout the document.

The cumulative effects "analysis" neglects to discuss the acreage or impacts of a single Forest Service, FGS, Timber Products or Green Diamond timber sale, let alone their combined impacts on the environment.

In their November 2008 Draft DEIS tracked comments (page 4-20), NMFS echoes many of the concerns expressed above regarding the lack of substance in the cumulative impacts analysis. On page 10-9 of their review NMFS indicates the cumulative impacts analysis of the No Action Alternative "states what would continue to happen but not the impacts of those actions." On page 10-10 NMFS indicates that the DEIS fails to disclose "how you determined there are cumulative beneficial impacts." Multiple times throughout their review (see 10-13) NMFS expresses concern that the DEIS "just summarizes the environmental consequences," and begs the authors to "please analyze the cumulative impacts." On page 10-16 NMFS wisely voices the concern that "stating that there are not cumulative impacts because conditions would not change compared to the No Action Alternative is not correct. That is not what determines cumulative impacts." Lastly, and most tellingly, on page 10-15 NFMS hits the nail on the head in writing that "in general this chapter lacks real data and analysis," and concludes by stating that "analysis requires data." Indeed it does. And the DEIS authors' disdain for data and their reliance on qualitative conclusions supplied by the applicant, not only renders the cumulative impacts analysis useless, but also morphs the "hard look" that NEPA requires into a collegial pat-on-the-back for FGS and their HCP. 50 cont'd

FIRE HAZARD AND FOREST MANAGEMENT.

> "Plantations are extremely flammable because of high crown to trunk ratio and because crowns are very close to the ground."
> -Upper South Fork Trinity River Happy Camp Creek Watershed Analysis, Shasta-Trinity National Forest at page 21.

Please note that page 2-28 of the DEIS indicates that one of "threat management objectives" included as a "species protection measure" for the Northern Spotted Owl is to "reduce the potential for catastrophic wildfire on the ownership that could diminish the quality and amount of spotted owl nesting/roosting, foraging, and dispersal habitat both on and off the ownership." Yet no analysis, disclosure or peer-reviewed scientific literature is presented in the DEIS regarding the impacts of the applicant's timber management activities on fire hazard in the planning area.

Our organizations are extremely concerned that the proposed action of converting 35,000 acres of currently protected suitable NSO habitat into plantations may increase fire hazard in the planning area. The practice of planting young tree plantations significantly increases fire hazard in the mid- to long-term. Tree plantations are more susceptible to intense fire behavior and severe fire effects than unlogged mature forests, including burned forests (DellaSala et al. 1995, Odion et al. 2004). The increased susceptibility of plantations to severe fire is due to: 51

- Structural characteristics, such as fine and interlocking branch structures situated low to the ground, which facilitate high heat energy output by fire and rapid fire spread (Sapsis and Brandow 1997).

- Warm, windy and dry microclimates compared to what would exist in an unlogged burned forest that possessed more structural diversity, ground shading and barriers to lateral wind movement (Countryman 1955, van Wagtendonk 1996).

• Accumulations of large volumes of fine logging slash on the ground surface (Weatherspoon and Skinner 1995).

In addition to these direct and indirect effects on the fire environment, the cumulative effects of plantation establishment include the creation of more highly flammable even-aged stands on a landscape already vulnerable to uncharacteristically large and severe fires. The number and distribution of even-age tree plantations resulting from industrial timber management has altered fire behavior and effects at both stand and landscape scales. (Frost and Sweeny 2000, Hann et al. 1997, Huff et al. 1995). Perry (1995) suggests that the existence of sufficient young tree patches on a forest landscape creates the potential for "a self-reinforcing cycle of catastrophic fires." Most plantations occur near roads (DellaSala and Frost 2001), which presents an added risk of human-caused ignitions during hot and dry conditions (USDA 2000).

Plantation establishment will reinforce a growing tendency toward high severity fire at a landscape scale. Please address peer-reviewed findings indicating that logging currently suitable NSO habitat followed by plantation establishment irreversibly hinders the natural low- and mixed-severity fire regime.

Large-diameter, standing trees and down logs exhibit several features that tend to mitigate their potential fire risk and hazard. Depending on weather conditions and time of year, their presence on the landscape can serve to lower the risk of rapid, intense fire spreading to adjacent areas. In general, fires burning through heavy fuels such as large-diameter downed logs tend to burn slowly, and depending on their spatial arrangement and fuel moisture levels, large downed logs can actually dampen a fire's intensity and rate of spread. 51 cont'd

Large-diameter heavy fuels have low surface area-to-volume (S/V) ratios, which tend to inhibit the amount of oxygen feeding combustion. This is why large-diameter fuels, such as the main stems of standing and downed trees, are not included in agency fire spread models such as BEHAVE. The BEHAVE model only incorporates live fuels up to 1-inch in diameter and dead fuels up to three inches in diameter because these small-diameter fine fuels have high S/V ratios, and thus fuel high fire intensities and rapid rates of spread. Fuels larger than three inches in diameter do not factor in on fire spread calculations because they do not affect fire behavior until long after the fire front has passed.

Site-specific conditions like fuel moisture levels, which can differ according to stage of decay, season of the year, and prevailing weather conditions, can further enhance the relatively low flammability of large-diameter snags and logs. Downed logs can store large amounts of water, especially if the logs lay directly on the ground surface. Forest Service research on hot, dry forest sites in the Klamath-Siskiyou region revealed that even after prolonged drought and high intensity fire events, tremendous amounts of water can still be found in the interior of logs. Indeed, the centers of large logs can actually be cool and moist even when the outer shell of a log is on fire. Consequently, large logs can provide vital refugia or "fire shelters" that enable a number of wildlife species, as well as mycorrhizal fungi and other micro-flora and fauna essential to post-fire natural recovery, to survive fires.

Over a typical fire season, this interior stored water is released slowly over time in the form of water vapor. This water release (coupled with the shade that snags and downed logs provide) can raise the relative humidity of micro-sites, which in turn tends to decrease the rate of evapotranspiration of adjacent live vegetation, and retains higher fuel moisture levels in adjacent dead fine fuels. These microclimatic effects make local sites adjacent to large-diameter downed logs moister and "greener" compared to sites devoid of large downed logs. With significant amounts of stored interior water, large-diameter downed logs can function like "heat sinks" because so much heat energy is required for fire to evaporate the water, heat and ignite the woody biomass. In effect, large downed logs with sufficient stored water function like natural fire extinguishers that can retard fire intensity and rate of spread.

Large downed logs can also provide important shade structures that obstruct solar radiation and surface winds. These microclimate influences can result in lower ground surface temperatures and reduced surface wind speeds, which translate into higher live and dead fuel moisture levels compared to areas cleared of shade from standing or downed trees. Large downed logs can also reduce the speed and variability of surface winds, which inhibits extreme or erratic fire behavior. Thus, the ability of large downed logs to store water and provide shade from the sun and wind can function to lower the fire intensity and rate of spread on those specific sites.

We refer the agencies to; "A Report to the President In Response to the Wildfires of 2000" September 8, 2000 by USDA Forest Service and Department of the Interior. Find this report at: http://www.fs.fed.us/emc/hfi/president.pdf 51 cont'd

The following is taken directly from Part III of the report, "Key Elements of the Administration's Wildland Fire Management Policy."

> "The removal of large, merchantable trees from forests does not reduce fire risk and may, in fact, increase such risk. Fire ecologists note that large trees are "insurance for the future - they are critical to ecosystem resilience."

Targeting smaller trees and leaving both large trees and snags standing addresses the core of the fuels issue. Yet the very purpose of this HCP is to accelerate the logging of large trees providing suitable habitat in occupied NSO activity centers.

The Congressional Research Service (CRS) addressed the effect of logging on wildfires in an August 2000 report and found that the current wave of forest fires is not related to a decline in timber harvest on Federal lands. From a quantitative perspective, the CRS study indicates a very weak relationship between acres logged and the extent and severity of forest fires. To the contrary, in the most recent period (1980 through 1999) the data indicate that fewer acres burned in areas where logging activity was limited.

Since 1945, the fluctuation pattern of acres burned in the 11 Western States has shown a steady rise with some of the worst fire seasons in the late 1980's, when timber harvest peaked at 12 billion board feet. In fact, the 10-year average annual number of acres burned nationwide in the 1980's when logging activity was heaviest was higher (4.2 million acres) than in both the 1970's (3.2 million acres) and the 1990's (3.6 million acres).

Qualitative analysis by CRS supports the same conclusion. The CRS stated:
"[T]imber harvesting removes the relatively large diameter wood that can be converted into wood products, but leaves behind the small material, especially twigs and needles. The concentration of these fine fuels on the forest floor increases the rate of spread of wildfires."

Similarly, the National Research Council found that logging and clearcutting can cause rapid regeneration of shrubs and trees that can create highly flammable fuel conditions within a few years of cutting. Without adequate treatment of small woody material, logging may exacerbate fire risk rather than lower it. 51 cont'd

The DEIS failed to analyze and disclose the factors that mitigate the flammability of large fuels. It also failed to analyze the full range of adverse effects on wildlife, vegetation, and natural recovery processes (such as elimination of refugia during future fire events) that would result from logging the large-diameter snags and logs that would be accelerated for the next three decades if the ITPs are issued.

ROAD MANAGEMENT.

"In general, as the density of roads in a drainage increases, the likelihood of road-related erosion and mass movement increases."

-DEIS AIT&I FGSC MSHCP, 3-9.

"Soils derived from granitics are among the most erodible soil types."

-DEIS AIT&I FGSC MSHCP, 3-12.

"Excessive sediment can fill pools, eliminate spawning gravels, decrease channel stability, increase nutrient and contaminant loads, and modify overall channel morphology."

-DEIS AIT&I FGSC MSHCP, 3-22.

"The applicant has also collected data on surface substrate composition in pool tail areas in Beaver, Cottonwood, Doggett, and Moffett creeks. These data suggest that fine sediment may adversely affect spawning success of salmonids in these streams." 52

-DEIS AIT&I FGSC MSHCP, 3-59.

"Road-related erosion is known to be a substantial contributor to the sediment budget in most managed watersheds."

-DEIS AIT&I FGSC MSHCP, 4-4.

"Road surfaces are the major controllable source of chronic sediment production. The primary management-related component of chronic sediment originates from erosion of abraded, dry road surfaces; ditch erosion and wet weather use and disturbance of roads."

-Lower Scott Ecosystem Analysis, Klamath National Forest, 5-4.

Attached to these comments is a peer-reviewed article by Trombulack and Frissell (2000) detailing some of the negative impacts of road presence and use on Terrestrial and Aquatic ecosystems that are largely ignored in the DEIS. The abstract for the article reads as follows:

> Roads are a widespread and increasing feature of most landscapes. We reviewed the scientific literature on the ecological effects of roads and found support for the general conclusion that they are associated with negative effects on biotic integrity in both terrestrial and aquatic ecosystems. Roads of all kinds have seven general effects: mortality from road construction, mortality from collision with vehicles, modification of animal behavior, alteration of the physical environment, alternative of the chemical environment, spread of exotics, and increased use of areas by humans. Road construction kills sessile and slow-moving organisms, injures organisms adjacent to a road, and alters physical conditions beneath a road. Vehicle collisions affect the demography of many species, both vertebrates and invertebrates; mitigation measures to reduce road-kill have been only partly successful. Roads alter animal behavior by causing changes in home ranges, movement, reproductive success, escape response, and physiological state. Roads change soil density, temperature, soil water content, light levels, dust, surface waters, patterns of runoff, and sedimentation, as well as adding heavy metals (especially lead), salts, organic molecules, ozone, and nutrients to roadside environments. Roads promote the dispersal of exotic species by altering habitats, stressing native species, and providing movement corridors. Roads also promote increased hunting, fishing, passive harassment of animals, and landscape modifications. Not all species and ecosystems are equally affected by roads, but overall the presence of roads is highly correlated with changes in species composition, population sizes, and hydrologic and geomorphic processes that shape aquatic and riparian systems. More experimental research is needed to complement post-hoc correlative studies. Our review underscores the importance to conservation of avoiding construction of new roads in roadless or sparsely roaded areas and of removal or restoration of existing roads to benefit both terrestrial and aquatic biota.
>
> -Trombulack, S.C. and C.A. Frissell. 2000. Review of ecological effects of roads on terrestrial and aquatic communities. Conservation Biology 14(1): 18-30.

52 cont'd

The following analysis provided by the Ashland Resource Area of the Medford BLM regarding the impacts of roads on edge effects and microclimatic changes that were not disclosed or analyzed in the DEIS:

> Barricades, however, don't mitigate the edge effects and microclimatic changes that roads produce. Various studies (e.g., Ortega and Capon 1999; Marsh and Beckman 2004) show that the negative impacts of roads to wildlife habitat are not limited to the road prism –there is a zone of influence that extends into the adjacent habitat. For example, Marsh and Beckman (2004) found that some terrestrial salamanders decreased in abundance up to 80 meters from the edge of a forest road due to soil desiccation from the edge effects. Ortega and Capen (1999) found that ovenbird (a forest-interior species) nesting density was reduced within 150 meters of forest roads. This study suggests that even narrow forest roads fragment habitat and exert negative effects on the quality of habitat for forest-interior species.
>
> -Deadman's Palm EA III-110. Ashland Resource Area, Medford BLM.

The Ortega and Capen (1999) and the Marsh and Beckman (2004) articles referenced by the Ashland Resource Area in the above quotation **are attached to these comments** for your convenience. The edge effects, microclimatic changes and soil desiccation acknowledged by the Ashland Resource Area were not addressed in the DEIS.

The January 2004 Rogue River-Siskiyou National Forest Roads Analysis (page V-11) concludes that:

Midslope roads can divert ground or surface water and concentrate flow to unstable slopes initiating slope and fill failures. Failures at stream crossings can produce debris flows in saturated, poorly consolidated sediment and fills. Debris flows can scour slopes and stream channels for long distances from the initial landslide. Indirectly, increased sedimentation can alter channel morphology and function; for example, stream flow may be diverted and a landslide toe slope undercut, causing stream bank failures downstream. Roads can alter a watershed's response to rain and snowmelt, affecting flow duration and extent. Road density is a good preliminary measure of the overall impact of a road network to a watershed.

The road system may directly affect large wood and sediment delivery, fish habitat, fish migration patterns, and aquatic habitat conditions. Roads and stream crossings may change the mechanism by which wood and sediment reach streams, and can change fish migration patterns. Roads paralleling or bisecting stream channels and adjacent riparian zones occupy space where vegetation once grew, thus removing sources of large wood and increasing the likelihood of additional sediment delivery to stream channels.

52 cont'd

Roads tend to extend the natural drainage network of both surface and subsurface water flows, mainly by redirecting these flows via ditches either to a different point in a watershed or into an adjacent drainage. Newly-constructed cut banks can disrupt subsurface flows creating one or more new springs and/or seeps. A natural break in slope on a hill slope to a steeper gradient can force subsurface flows to change flow gradient or to form a spring or seep. Often, where road segments were located at the slope break, the cut bank forced subsurface water to surface higher on the slope as a spring or seep, which may then be diverted down a road ditch.

While the DEIS does disclose that "data on surface substrate composition in pool tail areas in Beaver, Cottonwood, Doggett and Moffett creeks…suggest that fine sediment may adversely affect spawning success of salmonids in these streams" no attempt was made to quantify the impact of roads on sediment loading or to identify or disclose individual road segments that may be contributing to the hydrological degradation of these waterbodies.

53

The DEIS (3-62) acknowledges the presence of 56 road crossings of fish-bearing streams on FGS lands in the planning area (45 of which contain salmon or steelhead) yet the location, status, and impacts of these road/stream crossings are almost entirely undisclosed and unanalyzed. Indeed, the DEIS (3-62) indicates that the status of 14 of these road/stream crossings is simply "unknown." Why is this?

54

The DEIS (4-4) states that "road-related erosion is known to be a substantial contributor to the sediment budget in most managed watersheds," yet no substantive or quantitative data is provided as to which roads are contributing how much sediment to which watersheds.

55

While these comments have already addressed the failure of the DEIS to analyze and disclose the location, status and impacts of road-related fish passage barriers, we nevertheless bring to your attention the following findings of the Six Rivers National Forest:

56

Six Rivers National Forest Roads Analysis Version 1.0 (2003)

Key Question

How and where do road-stream crossings influence local stream channels and water quality?

Culvert density reflects the extent to which roads have modified the channel network and the potential risk associated with culvert failures. The relatively low density of road-stream crossings across the Forest is attributable to the high proportion of roads on or near ridgelines where stream density is much lower. The consequences of culvert failures can be minor or substantial. Minor failures introduce culvert fill material that exceeds the transport capacity of the channel, causing the channel to aggrade and widen. It can take several years for the channel to adjust and move the sediment downstream, but generally the effects are localized. Some culvert failures generate debris flows that entrain additional sediment as they move downstream. The impacts from debris flows can be far removed from the original culvert failure and take many years for the channel to adjust and riparian vegetation to reestablish. Stream crossings on steep terrain, with a lot of organic material upstream, have the greatest potential for debris flows. Adequate road maintenance is critical in these areas. 56 cont'd

Culvert diversions also pose significant risks in terms of off-site sedimentation. Diversions occur when a culvert plugs and the stream flow follows the roadbed instead of crossing the road and returning to the original channel. When the stream flow eventually crosses the road, it can scour a new channel on the hillslope. Upgrading culvert size or constructing critical dips on the roadbed are necessary to minimize the diversion potential risks on needed roads.

FUNDING HCP MITIGATION MEASURES AND MONITORING PROTECTION OVER TIME.

Prior to the issuance of the DEIS, our organizations had sincerely hoped that this HCP planning process would focus on developing a conservation plan that: (1) Minimized and mitigated the impacts of ITPs to the maximum extent practicable; (2) Assured adequate funding of the terms of the HCP by the applicant; (3) Did not appreciably reduce the likelihood of the survival and recovery of listed species; (4) Utilized the best available science; (5) Including meaningful provisions for adaptive management over the term of the HCP; (6) Identified substantive mechanisms for addressing unforeseen circumstances; and (7) Incorporated and responded to alternatives proposed during the public scoping period.

Our hopes concerning every one of these objectives have been dashed. The DEIS and HCP read like a celebration of the proposal to "take" (kill) up to 58 active NSO sites through the removal of their habitat in exchange for the creation of hypothetical habitat in the future. Further the aquatic "protections" for listed Coho are largely a re-hashing of the current requirements of the CFPA and the CESA that ignore the cumulative (and site specific) impacts of FGS practices, and under which Coho continue to decline. To our organizations, the HCP appears to be designed to maximize the short-term profits of the applicant at the expense of the environment. 57

Perhaps most disappointing to us is the complete lack of economic analysis or safeguards presented in the DEIS. While the HCP and IA contain byzantine formulas for the applicant to provide an undisclosed "letter of credit" and a "yearly expenditure report," the ability (and willingness) of the applicant to provide funding for the HCP goes completely unanalyzed in the DEIS. It is as if the authors of the DEIS simply do not care, or are not interested, in whether the HCP is adequately funded over time. Please note that §10(a)(2)(B)(iii) of the ESA mandates that the Services ensure that an HCP is adequately funded. The DEIS contains no such assurances.

Indeed, it contains no information about the economic health or future harvest plans of FGS whatsoever.

The economic "analysis" contained at the DEIS (4-55) indicates that current FGS harvest levels are "unsustainable" and under current management strategies would "decline toward zero." Further, the DEIS (1-11) is limited to only considering action alternatives that would produce a similar level of timber volume. The HCP is crafted to continue the "unsustainable" harvest level through issuance of ITPs that "would allow the applicant to harvest more of the currently suitable NSO habitat on its ownership." (DEIS, 2-18). Given this, one would hope that the DEIS would analyze the ability of FGS to fund the HCP over time. Such hope would be in vain as no such analysis was attempted in the DEIS. Indeed, the DEIS "economic analysis" contains no actual numbers, figures, projections or actual data whatsoever. 57 cont'd

ADAPTIVE MANAGEMENT AND UNFORSEEN CIRCUMSTANCES.

> "Additional conservation and mitigation measures shall not involve the commitment of additional land or financial compensation, or restrictions on the use of land or other natural resources otherwise available for development or use under the original terms of the HCP without consent of the permit holder."
>
> -FGS HCP page 8-13, regarding "unforeseen circumstances."

In preparing an HCP the applicant is required to identify "procedures to be used to deal with unforeseen circumstances." 50 CFR 17.22(b)(1)(iii)(B). The DEIS is completely silent as to how FGS or the agencies will meet this requirement. In the HCP itself, rather than identifying and disclosing meaningful or substantive procedures to address unforeseen circumstances, the applicant provides the quotation (at the header of this section) indicating that additional land or financial compensation or restrictions of the use of land are off the table. Such a statement hardly qualifies as a procedure to meaningfully address unforeseen circumstances. Rather, it appears to absolve FGS from addressing such circumstances altogether. Further, in the same section (HCP page 8-14) the private consulting firm hired by the applicant contends that "the Services bear the burden of demonstrating that unforeseen circumstances exist" and directs that any minor modifications to the terms of the HCP "be limited to modifications within any conserved habitat area or to adjustments within lands and waters that are already set-aside in the HCPs operating conservation program." 58

A brief statement in the HCP in which the applicant asserts that: (1) there are no unforeseen circumstances that can compel it to protect more land; (2) places the burden on the Services to prove unforeseen circumstances exist; and (3) limits minor HCP modifications to already protected areas, simply does not meet the requirements of 50 CFR 17.2(b)(1)(iii)(B).

Further, the decision of the agencies to largely ignore the issue of how to respond to unforeseen circumstances in the DEIS to support the pre-ordained decision to issue FGS ITPs for a 50-year period does not come close to taking the "hard look" that NEPA requires of such analysis.

RECOVERY OF THE NORTHERN SPOTTED OWL.

§10(a)(2)(B)(iv) of the ESA requires that an HCP not appreciably reduce the likelihood of the survival and recovery of listed species. 59

The 9th Circuit ruled in *Gifford Pinchot Task Force v. USFWS*, 378 F.3d at 1062, that merely avoiding jeopardy is insufficient; rather, the Services must work toward recovery. *Gifford Pinchot* invalidated the FWS's regulatory definition of Adverse Modification and found that FWS's application of the erroneous standard in the relevant Biological Opinions was not harmless error. It also held that FWS could not rely on the presence of suitable owl habitat in the late successional reserve network to find that habitat loss was not "destruction or adverse modification." In short, recovery means recovery and it is central to an agency's responsibilities under the ESA. 59 cont'd

Throughout the DEIS and HCP the agencies downplay the recovery standard while repeatedly referencing the jeopardy standard.

Yet the DEIS (2-51) calls for retaining only 24 of 82 NSO activity centers under the Proposed Alternative and 25 of 82 NSO activity centers under Alternative A. The "take" (death) of twice as many NSO activity centers as are "conserved" does not contribute to the survival and recovery of a listed species regardless of how many tortured (unpublished and unreviewed) algorithms are developed to assign relative "conservation values" to the NSO activity centers in the planning area. Please note that the DEIS fails to disclose the age, sex and reproductive history of any of the owls to be sacrificed in this habitat shell-game. Please further note, under any reasonable methodology, the current prohibition on take in 82 NSO activity centers contributes far more directly to the survival and recovery of this listed species as required by the ESA. Not only have the agencies failed to establish that reducing the NSO population in the planning area by 2/3rds is based on the best available science (as required by §7(a)(2) of the ESA), the DEIS fails to present any independent published peer-reviewed science to support its curious contention that removing the suitable habitat from over 50 NSO activity sites will in fact contribute to the recovery of the species. 60

The DEIS (4-25 through 4-27) indicates that under the Proposed Action suitable habitat would be liquidated at 44 activity centers, while suitable habitat in 42 activity centers would be removed under Alternative A. Yet in the "comparison of action alternatives" section, the DEIS (2-51) indicates that the Proposed Action would "protect" 24 of 82 activity centers while Alternative A would "conserve" 25 of 82 activity centers. Please harmonize these figures. 61

No action alternative would provide "demographic support" for owls associated with both federal critical habitat and late-successional reserves. The Proposed Alternative would allow for the harvest of suitable habitat within the 500-acre core area of five NSO sites that are associated with federal late-successional reserves, while Alternative A would allow for the harvest of suitable habitat within the 500-acre core area of two NSO sites that are associated with federal critical habitat. Do the Services contend that such harvesting would minimize and mitigate impacts to the NSO "to the maximum extent practicable" as required by the ESA? 62

Lastly, the DEIS largely avoids discussion or analysis of the likelihood, timing, location and results of "take" that will flow from the issuance of ITPs under this HCP. 63

PACIFIC FISHER.

In July 2003 the U.S. Fish and Wildlife Service (FWS) announced a "90-day finding" regarding a petition to list Pacific fisher as "endangered" under the ESA throughout its West Coast range, including portions of California, Oregon, and Washington. 68 Fed. Reg. 41169 (2003). In this finding, FWS found that the petition presented "substantial information" that ESA listing of the fisher may be warranted, and initiated a status review, including a solicitation for comments. Id.

64

In April 2004 FWS announced a finding that the current status of the Pacific fisher does warrant protection under the ESA as an "endangered" species. 69 Fed. Reg. 18770 (2004). FWS declined, however, to formally list the fisher, because listing was "precluded" by other priority actions, and instead placed the fisher on its "candidate species" list. Id.

In those findings, FWS published a detailed review on the conservation status of Pacific fisher, including a comprehensive analysis of threats to the continued existence of the species. Id. For example, FWS noted that "habitat loss and fragmentation appear to be significant threats to the fisher. Forested habitat in the Pacific coast region decreased by about 8.5 million acres between 1953 and 1997." Id. at 18780. "Forest cover in the Pacific coast is projected to continue to decrease through 2050, with timberland area projected to be about 6 percent smaller in 2050 than in 1997." Id. "Thus fisher habitat is projected to decline in Washington, Oregon, and California in the foreseeable future." Id.

The FWS status review also disclosed that "[v]egetation management activities such as timber harvest and fuels reduction treatments . . . can destroy, alter, or fragment forest habitat suitable for fishers." Id. at 18778. "A number of studies have shown that the fisher avoids areas with little forest cover or significant human disturbance and conversely prefers large areas of contiguous interior forest." Id. at 18773. "The fisher's need for overhead cover is very well-documented. Many researchers report that fishers select stands with continuous canopy cover to provide security cover from predators." Id. "Fishers probably avoid open areas because in winter open areas have deeper, less supportive snow which inhibits travel, and because they are more vulnerable to potential predators without forest cover." Id. "Furthermore, preferred prey species may be more abundant or vulnerable in areas with higher canopy closure." Id. "Although generalist predators such as bobcats and mountain lions are not common in dense forest environments, they can invade disturbed habitat." Id. At 18781. "Healthy adult fishers are apparently not usually subject to predation, except for those . . . in areas with less canopy cover and forest structure." Id.

65

In addition to habitat destruction, FWS further noted that human uses of areas occupied by fisher "result in an overall degradation of habitat." Id. at 18780. "Vehicle collisions could be a significant mortality factor, especially for small fisher populations." Id. "Off-highway and over-snow vehicles are used throughout the range of the fisher, and can also directly kill fishers or cause behavioral changes due to disturbance." Id. "Vehicle traffic during the breeding season in suitable habitat may impact foraging and breeding activity." Id

None of this information is reflected in the cursory analysis regarding impacts to the Pacific Fisher under the HCP provided in the DEIS. The DEIS (4-46) contains no independent analysis of Fisher habitat or populations in the planning area and instead presents NSO habitat as a surrogate for disclosing the impacts to Pacific Fishers. The DEIS, HCP and Implementing

Agreement contain no adaptive management or additional habitat protection measures should the conservation needs of Pacific Fisher increase in the next 50 years. 66

While the DEIS (4-47) concludes that implementation of the Proposed Action would "result in an adverse effect on fishers restoring or denning within 1.3 miles of an owl activity center not designated as a CSA," no attempt is made to quantify or disclose the impacts of such habitat removal and the consequent "adverse" effect to the species. Instead, the conclusions of the DEIS rest on the assumption that "general forest management and other covered activities have the potential to benefit fishers and other species through maintaining forest productivity and promoting the development of a heterogeneous forest structure consisting of a full range of forest habitats, including mature forest stands." This undocumented statement could not be more misleading. In fact, issuance of the HCP "would allow the applicant to harvest more of the currently suitable NSO habitat on its ownership." (DEIS, 2-18). In fact, according to the Implementing Agreement, harvest of mature habitat would be greatly accelerated in the first decade of the plan. In fact, up to 2/3^{rds} of the current existing suitable habitat would not be designated as CSAs. The HCP (6-59) indicates that as little as 5,000 acres of suitable habitat would be "protected" in CSAs while an estimated 20,700 acres of (currently protected) suitable habitat would be logged in the first decade of implementation, and a total of 35,000 acres of suitable habitat would be liquidated during the 50-year term. Please note that the DEIS contains no analysis whatsoever of the impacts of logging existing suitable habitat located in NSO activity centers on Pacific Fisher populations. 67

SCIENTIFIC CONTROVERSY.

Both NEPA and the ESA require that the agencies acknowledge and respond to scientific controversy that is relevant to the assumptions and conclusions contained in the DEIS. Indeed, §7(a)(2) requires that best scientific data available provide the basis for the HCP and ITPs. Further, the NEPA regulations promulgated by the CEQ require the agencies to "insure the professional integrity, including scientific integrity, of the discussions and analyses" in the NEPA documents that it prepares. 40 C.F.R. § 1502.24. The DEIS must disclose the extent to which the impact of the proposed action is scientifically controversial. See id. §§ 1508.27(b)(4), 1508.27(b)(5). The agencies must disclose to the public any shortcoming or controversy surrounding the chosen methodology for analysis 68

The bold contention on page 2-27 of the DEIS that "almost any forested landscape can provide dispersal opportunities" for NSO is disputed by the vast majority of literature regarding the dispersal habitat requirements of the owl. Indeed, we are shocked to see such a cavalier statement in a NEPA document associated with the USFWS.

Attached to these comments is a 2008 (published and peer reviewed) article from Conservation Biology by Carrol and Johnson entitled "The Importance of Being Spatial (and Reserved) Assessing the Northern Spotted Owl Habitat Relationships with Hierarchical Baysian Models." This study, like so many others, discusses the relationship between older forest types and spotted owl activity centers. Please note that the DEIS largely ignores the impacts of accelerated suitable habitat removal in activity centers during the first three decades of HCP implementation. 69

Also attached to these comments is USGS Open-File Report 2008-1239 by Funk et al. Entitled "Genetics Show Current Decline and Pleistocene Expansion in Northern Spotted Owls." This peer-reviewed study provides "independent evidence that northern spotted owls have recently declined, and suggests that loss of genetic variation is an emerging threat to the subspecies' persistence." Please note that the DEIS is wholly silent as to the impact of the ITPs on NSO genetic variation. 70

The reliance in the DEIS (page 3-61) on "unpublished" (undisclosed and non-peer reviewed) FGS data regarding the (low) levels of Large Woody Debris (LWD) present in the planning area does not constitute a hard look at the current ecological conditions of the planning area. 71

In their scoping comments regarding this Klamath Riverkeeper stated that:

> [R]ecent studies show that mussels in the Klamath River and Perch in the Klamath reservoirs show high amounts of toxic algae. Is NOAA aware of this? How will NOAA deal if new information shows that toxic algae is weaking the livers or immune systems of Coho salmon? Is NOAA aware that up to 80% of the juvenile salmon in the Klamath die from fish deceases? Will fish diseases and juvenile kills be assessed? How does poor water quality from Oregon impact Coho Salmon? How will NOAA deal with this if its hands are tied due to a no surprises policy? Will this HCP impact Spring Chinook salmon? Will this HCP have cumulative impacts or take with the Green Diamond HCP downriver? What happens to this plan if there are more large fish kills? Will this HCP be protective enough for Chinook salmon if there is a listing? Will this HCP impact harvestable numbers of salmon in the Klamath River? How does this HCP incorporate its Tribal Trust responsibilities? Will this HCP deal with the recent National Academy of Sciences report that points out that science in the Klamath is piecemeal and includes major data gaps? Will this HCP be compatible with the Basin Plan and Porter Cologne Act? Will it necessitate a report on Waste Discharge? Will it add to sediment in sediment-listed watersheds? How do other sediment causing actions, such as suction dredge mining, streambed alterations and grazing impact add to the take that will be specified in this HCP? 72

It appears that the Services elected not to respond substantively in the DEIS to any of the questions or scientific controversy discussed above.

SALVAGE LOGGING.

> "Trees damaged or killed outright by pests or pathogens in a CSA, including those in WLPZs and SMZs, will be considered by FGS for salvage."
>
> -FGS HCP, page 8-10.

Page 2-29 of the DEIS indicates that the Services intend to allow for salvage logging within so-called "Conservation Support Areas" (CSAs) that allegedly provide the conservation mitigation backbone for the "take" and logging of currently occupied NSO suitable habitat. Indeed, without analysis, supporting peer-reviewed documentation, or disclosure of controversy, the DEIS (page 2-29) requires that in the CSAs the applicant salvage "trees that are weakened or killed by disease or insects, or that are damaged by wildfire or climatic events." 73

While the DEIS and HCP authorize salvage logging in otherwise "protected" lands in the planning area, neither document provides even a cursory analysis of the environmental impacts of such logging. Indeed, despite authorizing salvage logging in CSAs, WLPZs and SMZs, the DEIS is wholly silent regarding the foreseeable impacts of salvage logging on FGS lands and the scientific controversy regarding its effects.

Scientists have recently recommended that forest managers should ensure the maintenance of moderate and high severity fire patches to maintain populations of numerous native bird species positively associated with fire (Hutto 1995, Hutto 2006, Kotliar et al. 2002, Noss et al. 2006, Smucker et al. 2005). At the landscape level, high severity habitat (unlogged) is among the most underrepresented, and rarest, of forest habitat types (Noss et al. 2006). Indeed, the current annual spatial extent of wildland fire in California's forests is about one tenth of what it was prior to fire suppression (Medler 2006).

Forests experiencing high severity burns, or "snag forests", are often incorrectly assumed by land managers to be "damaged" (USDA 2004). Ecologically, this is strongly contradicted by the scientific evidence. Peak biodiversity levels of higher plants and vertebrates are found in patches of snag forest habitat—areas where most or all of the trees are killed by fire (Noss et al. 2006), consistent with the principle that pyrodiversity enhances biodiversity, where mixed-severity fire effects occur (Chang 1996). Fire-induced heterogeneity, including a mix of low, moderate, and high severity patches, leads to higher post-fire understory plant species richness compared to homogeneous low severity fire effects (Chang 1996, Rocca 2004). Mixed-severity fire, meaning a heterogeneous mix of high, moderate, and low severity effects, facilitates reproduction of numerous native herbaceous and shrub species (Chang 1996, Rocca 2004), the germination of many of which is triggered by fire-induced heat, charate, or smoke (Biswell 1974, Chang 1996). These flowering plants, in turn, increase biodiversity of flying insects, including hymenopterans (bees, wasps, flying ants). And, fire-mediated conifer mortality attracts bark beetles and wood-boring beetles, some species of which have evolved infrared receptors capable of detecting burned forests from over 161 km away (Altman and Sallabanks 2000, Hutto 1995). Other insect species are attracted by the smoke from fires (Smith 2000). 73 cont'd

As a result, avian species richness and diversity increases in heavily burned patches occurring within a mix of low and moderate severity effects. Woodpeckers excavate nest cavities in snags and feed upon bark beetle and wood-boring beetle larvae in dead trees; Mountain Bluebirds (*Sialia currucoides*) and other secondary cavity-nesting species use nest holes created the previous year by woodpeckers; granivores such as the Red Crossbill (*Loxia curvirostra*) feed upon seed release from cones following fire; shrub-dwelling species like the Blue Grouse (*Dendragapus obscurus*) nest and forage within shrub growth scattered throughout high severity patches; while aerial insectivores such as the Olive-sided Flycatcher (*Contopus cooperi*) prey upon the bark beetles that are abundant in snag patches (Altman and Sallabanks 2000, Hutto 1995). The Olive-sided Flycatcher is listed by the U.S. Forest Service as a Species at Risk, meaning that there is significant concern about the viability of its populations due to habitat scarcity and loss (USFS 2001). Populations of small mammals experience overall increases shortly after high severity fire, and amphibians are positively associated with the large woody material that gradually accumulates in the decades following such fire effects (Smith 2000). As well, ungulates forage upon post-fire flora, and large predators frequently seek their prey in burned patches (Smith 2000).

Studies have detected higher overall avian species richness in severely burned versus unburned forest in the western United States (Bock and Lynch 1970, Hutto 1995, Raphael and White 1984, Siegel and Wilkerson 2005). In one snag forest area resulting from the Manter Fire of 2000 in the southern Sierra Nevada, a total of 111 bird species were observed (Siegel and Wilkerson

2005). Following the 60,000 ha? McNally Fire of 2002 in Sequoia National Forest, Olive-sided Flycatchers were found in the burn area (Siegel and Wilkerson 2005). This species had previously been considered to be extirpated from Sequoia National Forest, possibly since 1930 (Altman and Sallabanks 2000).

Research has also indicated that numerous avian species, including several woodpecker species, exhibit a preference for burned conifer forest habitat (Bock and Lynch 1970, Dixon and Saab 2000, Murphy and Lehnhausen 1998, Granholm 1982, Hutto 1995, Saab et al. 2002, Saab et al. 2004). Fire-killed trees provide nesting and foraging habitat for numerous woodpecker species (Hutto 1995, Dixon and Saab 2000). Post-fire logging has been described as a threat to such species (Dixon and Saab 2000, Kotliar et al. 2002, Lindenmayer et al. 2004, Murphy and Lehnhausen 1998, Saab et al 2004).

To conserve populations of species which prefer heavily burned forest patches in the eastern Cascades, Altman (2000) recommended that: at least 2% of the forested landscape be maintained in early post-fire habitat; at least 40-50% of such burned stands be retained in an unlogged state; and, where salvage logging does occur, all snags (fire-killed trees) > 51 cm (20 inches) dbh and half of all snags 30-51 cm (12-20 inches) dbh should be retained.

There is perhaps no vertebrate species more strongly representative of the snag forest habitat type than the Black-backed Woodpecker (*Picoides arcticus*) (Hanson 2007, Hutto 1995). This species is a designated Management Indicator Species, acting as a bellwether for the viability of dozens of other species associated with snag forests (USDA 2004). One of only two woodpecker species globally with three toes instead of four, the Black-backed Woodpecker is able to deliver exceptionally hard blows due to added heel mobility resulting from the lack of a fourth toe and, as a consequence, it can reach beetle larvae that other woodpecker species cannot (Dixon and Saab 2000). One bird eats an astounding 13,500 beetle larvae per year (Hutto, unpublished data). From behind, the all-black coloring of this species confers excellent camouflage against the charred bark of a fire-killed tree. Though Black-backed Woodpeckers are occasionally, but rarely, seen outside of stand-replacement burns, forests outside of snag forest habitat are believed to be "sink" habitats which do not support them (Hutto 1995, Dixon and Saab 2000). 73 cont'd

In the northern Rocky Mountains, the Black-backed Woodpecker is largely restricted to recently severely burned conifer forest that is unlogged (Hutto 1995). In my own research, I have found the same to be true in forests of the Sierra Nevada and southern Cascades (one of my study sites was in the southern Cascades, while two were in the Sierra Nevada) (Hanson 2007).

The Black-backed Woodpecker, which was historically "quite numerous" in Sierra Nevada mixed conifer forests (Cooper 1870), but later became "rare" (Dawson 1923, Grinnell and Storer 1924, Siegel and DeSante 1999), appears to require a minimum high severity patch size of 12-25 ha (Saab et al. 2002). "Strong excavators" such as the Black-backed Woodpecker may effectively use snag forest habitat for only 5-7 years post-fire (Saab et al. 2004), relying upon a constantly replenished supply of this ephemeral habitat as new fires occur. However, large fires allow longer periods of occupancy, since it takes nest predators longer to recolonize the burn area (Saab et al. 2004). Other strong excavators, such as the Hairy Woodpecker (*Picoides*

villosus) and the White-headed Woodpecker (*Picoides albolarvatus*) are positively associated with burned forest as well (Saab et al. 2002, Saab et al. 2004).

Heterogeneous fires are very important ecologically, since a number of species depend not only upon burned forest habitat in general, but also specifically upon particular levels of severity, with some requiring low or moderate severity burn patches and some requiring only patches of high severity burned forest (Smucker et al. 2005, Kotliar et al. 2007).

Indeed, a recent scientific study of the northern Sierra Nevada and southern Cascades by Forest Service scientists concluded that:

> "…it is clear from the scientific data that burned forest, including stand replacing burns [high severity fire patches], provide important bird habitat. The abundance and diversity of woodpecker species generally reaches a peak in recently burned forest. The Black-backed Woodpecker, a rare resident of the northern Sierra forest, predominantly occurs in recently burned forest. Olive-sided Flycatcher, a species declining throughout the Sierra Nevada, has been shown to be strongly associated with burned forest as well. Thus we promote the view that burned forest is important wildlife habitat." (USFS 2006)

It is the diversity of fire effects that facilitates and maximizes native biodiversity (Connell 1978, Noss et al. 2006). It is, in fact, the unlogged high severity patches that are most in deficit in California forests, probably more than any other single forest habitat type. Any post-fire logging would only un-do the benefits of heterogeneous fire effects. 73 cont'd

Attached to these comments is a peer-reviewed paper regarding post-fire forest succession that speaks directly to the question of post-fire conifer establishment in the Planning Area. "Conifer Regeneration After Forest Fire in the Klamath Siskiyous: How Much, How Soon?" Shatford, J.P.A.; Hibbs, D.E.; Puettmann, K.J. Journal of Forestry. Volume 105, Number 3, April/May 2007, pp. 139-146(8).

The abstract of this paper states:

> The increasing frequency and extent of forest fires in the western United States has raised concerns over postfire management actions on publically owned forests. Information on ecosystem recovery after disturbance is lacking and has led to heated debate and speculation regarding the return of forest vegetation after disturbance and the need for management actions. One critical question emerges, will these ecosystems recover on their own, and if so, over what time frame. ***We report on one aspect of recovery, the spatial and temporal variation of natural conifer regeneration evident 9-19 years after forest fires in California and Oregon. In contrast to expectations, generally, we found natural conifer regeneration abundant across a variety of settings.*** Management plans can benefit greatly from using natural conifer regeneration but managers must face the challenge of long regeneration periods and be able to accommodate high levels of variation across the landscape of a fire.

INCENTIVE TO LOG CSAs AFTER 50 YEARS.

> "Permittee acknowledges that most impacts to the northern spotted owl and its habitat will occur during the first decade of the FWS permit, and that, therefore, relinquishment of the FWS permit will result in a requirement for post-relinquishment mitigation…" 74

-Draft Implementing Agreement FGS HCP October 2009.

"Over the term of the Permits, nearly all of the currently available habitat for northern spotted owl (sic) in the Plan Area could be harvested, with the exception of approximately 5,000 acres which are protected in CSAs. It is anticipated that the majority of timber harvest in the Plan Area would occur in the first 10 years of the HCP. During this first decade, the amount of northern spotted owl habitat modified due to FGS' harvest activities is estimated to be 20,700 acres."

-FGS HCP, 6-59.

Spotted Owl populations are in trouble now. Both FEMAT and the NW Forest Plan anticipated a habitat bottleneck during the initial implementation of the Plan that would dangerously reduce NSO genetic viability.

Yet the HCP and DEIS propose to trade actual suitable habitat that exists now, allowing for the continued survival of real spotted owls that currently use that habitat, in exchange for hypothetical habitat in the future. Further, nothing would preclude FGS from targeting the hypothetical future habitat for logging at the conclusion of the HCP term; in fact, the HCP and IA would create a financial incentive to do just that. 74 cont'd

The DEIS claims that implementation of the Proposed Action will double the amount of acreage in mid to late seral condition by the end of the 50-year permit term. Yet the DEIS is silent as to what then happens to those forest stands. Is there not a financial incentive at the conclusion of the permit term to liquidate the hard-earned future habitat that has been allowed to finally develop as mitigation for allowing the applicant to immediately log suitable habitat that is being used now? What is to stop a habitat "shell game" in which suitable habitat is grown only to be logged once it actually could be used by the species it is intended to help?

Please note that the agencies refused to carry forward an analysis of a reduced permit term (allegedly) because of their concern that it would take forest stands in the Grass Lake unit at least 50 years to grow mature habitat to mitigate for the immediate removal of (currently protected) suitable habitat. (DEIS page 2-48). What prevents the logging of these slow-growing mature stands at the conclusion of the permit? Is there not an incentive for FGS to obtain the economic profit from immediate suitable habitat liquidation in the Klamath units and future suitable habitat liquidation in the Grass Lake units? 75

SENSITIVE SPECIES.

The Services' political decision to authorize an HCP that locks in the "no surprises policy" for 50 years and provides no substantive protections for Sensitive Species (DEIS pages 2-48 through 2-49) in no way obviates or reduces the NEPA requirement to analyze and disclose the impacts of the Proposed Action on Sensitive Species. Such an analysis was not attempted, nor accomplished in the DEIS. 76

Page 4-40 of the DEIS reveals that Great Gray Owls (GGO) are a CESA-listed species, yet no surveys were conducted to determine their presence or quantify potential impacts to GGOs from the Proposed Action. 77

The "analysis" of the impacts of HCP implementation on Goshawks (DEIS, 4-40) is tiered entirely to the alleged benefits of the Proposed Action on NSO habitat and contains no information at all regarding Goshawk population dynamics in the planning area. Such tiering 78

(without analysis) is rather suspect given that under the Proposed Action "issuance of the ITPs would allow the applicant to harvest more of the currently suitable NSO habitat on its ownership." (DEIS, 2-18.) Please note that the Draft Implementing Agreement indicates that:

> "Permittee acknowledges that most impacts to the northern spotted owl and its habitat will occur during the first decade of the FWS permit, and that, therefore, relinquishment of the FWS permit will result in a requirement for post-relinquishment mitigation…"
>
> -Draft Implementing Agreement FGS HCP October 2009.

78 cont'd

The DEIS "analysis" of the impact of the HCP on Goshawks cannot rely exclusively on the alleged benefits to the species from the hypothetical creation of NSO suitable habitat in the future while ignoring the impact of the accelerated NSP suitable habitat removal that would be authorized by the HCP and Implementing Agreement.

"Great gray owls have been heard during surveys that have occurred along the Siskiyou Crest." Klamath National Forest Wide Late Successional Reserve Assessment, 2-78.

Page 44 of the DEIS acknowledges that no Peregrine Falcon surveys have been conducted, contains no site-specific species information (or analysis) at all, yet boldly predicts that CALFIRE will protect Peregrines via future site-specific THP mitigation measures. The content, frequency and efficacy of these alleged mitigation measures are not disclosed nor analyzed. 79

Similarly, the "analysis" contained in the DEIS (page 4-45) regarding the impacts of the HCP and Implementing Agreement on sensitive bat species contains no site-specific information whatsoever and does not attempt to address bat population dynamics nor the impacts of proposed salvage logging (of snags) in CSAs and riparian areas on these species. Again, the alleged creation of hypothetical future NSO habitat is used as a surrogate for actual analysis of the impacts of the Proposed Action on bat species, yet the impacts of accelerated NSO suitable habitat logging over (at least) the first decade of the HCP is neither disclosed nor analyzed. 80

The DEIS (page 4-50) provides no analysis, data, surveys or meaningful site-specific information regarding the impacts of the HCP on Tailed Frogs or Southern Torrent Salamanders. Instead, the Services appear to be comfortable locking in 50 years of NSO "take," and a "no surprises policy" that relies entirely on conclusory guesswork about the impacts of such logging on sensitive amphibian populations. 81

Rather than analyze or disclose the impacts of HCP implementation on Siskiyou Mountain Salamanders or Scott Bar Salamanders, the DEIS relies on tenuous (undefined and unanalyzed) CESA "protection" of these salamander species by CALFIRE and the California Department of Fish and Game. Such reliance is particularly troubling given that the Department of Fish and Game: (1) illegally attempted to avoid protection of Scott Bar Salamanders as a listed species; (2) illegally attempted to de-list the Siskiyou Mountain Salamander; and (3) is the only agency in the world to contend that these species do not benefit from closed-canopy forest habitat conditions. Interestingly, while the DEIS (page 4-54) acknowledges "adverse effects outside of CSAs and beneficial effects inside CSAs" to these species, no attempt is made to quantify or analyze these "adverse" or "beneficial" effects. Such an analysis would seem to be important given that far more acreage in the HCP would be managed outside of CSAs (with adverse impacts) than inside of CSAs (with alleged benefical effects). 82

California Fish and Game has not accurately or credibly characterize the range, status, habitat

use or taxonomy of the Siskiyou Mountains Salamander. The Siskiyou Mountains Salamander has the smallest range of any western Plethodon and only a small portion of this narrow range contains suitable habitat, which is patchily distributed across the landscape. In the Oregon portion of the species' range, pre-disturbance surveys for the Siskiyou Mountains salamander conducted by the Forest Service found that suitable habitat occupied anywhere from 3-14% of planning areas in the northern portion of *P. stormi's* range (USDA, USDI Species Review Panel 2001). Similar estimates have not been made for the southern portion of the species' range, but it is likely that a similar small proportion of the landscape supports suitable habitat.

Restricting the Siskiyou Mountains Salamanders distribution further, the species is only found in a portion of suitable habitat. Ollivier et al. (2001) sampled 239 randomly sites with suitable substrates in forested habitat for Siskiyou Mountains salamander and found only 27% were occupied by the species. Using a more refined habitat definition and a different survey approach, Nauman and Olson (2004a) similarly found *P. stormi* on 26% of randomly selected sites on federal lands in California.

Moreover, genetic studies have determined that the Siskiyou Mountains Salamander is actually two separate species (*P. stormi and P. asupak*) with *P. stormi* consisting of two distinct population segments (Pfrender and Titus 2002, DeGross 2004, Mahoney 2004, Mead et al. 2005). All three of these entities occur in California. This division further restricts the distribution of the Siskiyou Mountains Salamander and identifies the Scott Bar Salamander as a new entity of conservation concern, which has an even more limited distribution than *P. stormi*. Fish and Game's petition failed to comprehend the significance of the population structure revealed in these studies to the overall conservation of the species, merely concluding that they would "evaluate the implications of any taxonomic revision upon publication." Mead et al. (2005) has since been published recognizing *P. asupak* as a valid species, yet Fish and Game has still persisted in pushing delisting. The narrow range of the salamander in combination with the patchy distribution of its suitable habitat, limited occupation of suitable habitat and genetic structure, certainly qualifies this species as rare and imperiled. 82 cont'd

Research by the U.S. Forest Service has determined that the Siskiyou Mountains Salamander is closely associated with late-successional forest. Ollivier et al. (2001), for example, conclude:

> "Overall, our results indicated a significant association of the Siskiyou Mountains salamander with conditions found in older, undisturbed forest with a closed canopy, moist microclimate, and rocky substrates dominated by cobble-sized pieces. These habitat attributes appear optimal for reproductive success and long-term survival throughout the range of this species. The Siskiyou Mountains salamander may require those ecological conditions found primarily in late-seral forest."

The Siskiyou Mountains Salamander's association with older closed canopy forest makes it sensitive to habitat disturbance from logging and other factors. Combined with a limited and patchy distribution, this sensitivity makes the species quite vulnerable to extirpation.

The one-paragraph "analysis" of the impact of the HCP and Implementing Agreement on Lamprey (DEIS, 4-51) tiers entirely to "those described for anadromous salmonids" No attempt is made to disclose or analyze the current state of scientific knowledge regarding the population dynamics, habitat needs or range of this species. Indeed, the DEIS contains no analysis at all 83

regarding impacts to Lamprey. Further, the HCP (and Implementing Agreement) contain no provisions for monitoring or adaptive management should changed or unforeseen circumstances necessitate additional protections for this species. 83 cont'd

The DEIS (4-52) "analysis" of the impact of the HCP and Implementing Agreement on special status plant species contains cut-and-paste conclusory boilerplate instead of analysis and disclosure of the habitat needs, population trends, and foreseeable impacts to these species. For instance, page 4-52 of the DEIS contends that "the applicant would continue to avoid or minimize potential adverse impacts to listed plants, including continuing to adhere to measures contained in the CFPRs (special protections afforded to meadows and wetlands), and measures identified during the THP preparation and review process." When would adverse impacts be "avoided" as opposed to "minimized?" What is the efficacy of these measures? How often are they invoked? On how many acres? What are the population trends for these species in the planning area? 84

PORCUPINE AND BEAVER.

Porcupine and Beaver were formally abundant in the planning area and played key ecosystem service roles prior to almost complete extirpation from the Siskiyou Crest and the Scott River Watershed. It is both foreseeable and likely that these species will require mitigation measures and recovery actions to regain stable populations in the forestlands covered by the proposed HCP.

The decline of beaver is well documented. Known as "nature's engineer", the beaver is an important species that creates pools beneficial to spawning salmon. The mid-Klamath aquatic habitats could greatly benefit with the recovery of beaver closer to historic population sizes. The aquatic analysis contained in the DEIA fails to analyze the role and contributions of beaver to hydrological health and salmon recovery. 85

It is widely understood that porcupines were previously a common presence in the Siskiyou Crest. Field observations and surveys of wildlife officials now indicate a very low abundance of porcupines throughout the Klamath Mountains. Porcupines are thought to be a food source for the Pacific fisher, a species of conservation interest and a candidate for listing under the Endangered Species Act. Porcupines are also a valuable cultural resource for the Karuk Tribe, who are greatly concerned by their extremely reduced populations.

It is important that the FGS HCP address the habitat needs of these two imperiled species and state clearly how precautions will be taken to ensure the eventual return of healthy populations to the landscape. Further, the importance of beaver populations to salmon habitat must be disclosed, as must the importance of porcupine as a prey species for pacific fisher.

THE HCP and ITPs DO NOT MITIGATE AND MINIMIZE IMPACTS TO LISTED SPECIES TO THE MAXIMUM EXTENT PRACTICABLE.

"Under the HCP, the 85 owls that could be incidentally taken over the Permit Term represent 22 percent of the estimated number of northern spotted owls within the Area of Analysis." 86

-FGS HCP, 6-58.

§10(a)(2)(B)(ii) of the ESA establishes a non-discretionary duty on the applicant and the Services to minimize and mitigate negative impacts to listed species "to the maximum extent practicable." The HCP handbook (section 7) indicates that this duty requires consideration of two factors: (1) adequacy of the minimization and mitigation program, and (2) whether it is the maximum that can be practically implemented by the applicant. §10 further requires the agencies to ensure that the ITPs will not "operate to the disadvantage of a listed species." As will be discussed below, this has not occurred in the proposed HCP. Indeed, it appears that the HCP and IA are designed to push the edges of the law in order to allow for and encourage the maximum possible removal of current suitable NSO habitat that will result in "take." 86 cont'd

"Implicit in NEPA's demand that an agency prepare a detailed statement on 'any adverse environmental effects which cannot be avoided should the proposal be implemented,' 42 U.S.C. § 4332(C)(ii), is an understanding that an EIS will discuss the extent to which adverse effects can be avoided." *Robertson*, 490 U.S. at 351-52. The DEIS must discuss mitigation in sufficient detail to ensure that environmental consequences have been fairly evaluated." *Robertson*, 490 U.S. at 352; *see also Idaho Sporting Congress*, 137 F.3d at 1151 ("[w]ithout analytical detail to support the proposed mitigation measures, we are not persuaded that they amount to anything more than a 'mere listing' of good management practices").

Page 2-39 of the DEIS indicates that under Alternative A the road inventory and sediment reduction measures required under the Proposed Action would not be implemented. Why is this the case? Would not the "systematic" and "prioritized" "draft road management plan" contained in the HCP help "mitigate and minimize impacts to listed species to the maximum extent practicable?" Why not include this mitigation and minimization plan in all of the action alternatives under consideration? 87

Please note that in exchange for ITPs that "would allow the applicant to harvest more of the currently suitable NSO habitat on its ownership" immediately (DEIS, 2-18) the Services require next to nothing from the applicant. In the mere 24 (out of 82) NSO activity centers that would be "protected" by CSAs on the applicant's lands, the Services merely require that the *combined* Forest Service and FGS retain 600 acres of nesting/roosting habitat and 1,050 acres of foraging habitat be retained within the home ranges. In other words, if the Forest Service has already protected that amount of habitat, the applicant is free to log all of its holdings in the NSO home range. 88

Further, the acreage described above is the bare minimum habitat required by USFWS to avoid "take" in a home range. Given that "take" is currently prohibited in active NSO home ranges in the planning area, how exactly does opening 2/3rd of the NSO home ranges to "take" while requiring retention of the bare legal minimum to avoid take in the last remaining 24 home ranges serve to minimize and mitigate negative impacts to listed species "to the maximum extent practicable." Please further note that even these minimal "protections" for CSAs vanish once the inevitable fire occurs within this fire-evolved and fire-dependent ecosystem. See HCP page 8-9. It also vanishes at the end of the permit term. 89 90

The applicant (HCP 9-14) suggests that killing owls via habitat removal in 44 activity centers (which is currently prohibited by the ESA) while being required to provide that absolute bare minimum habitat to avoid take at 24 remaining activity centers (which is also currently prohibited by the ESA), means that "the level of mitigation is rationally related to the level of anticipated take." (HCP 9-14). This curious contention is "supported" by reference to a magical algorithm developed by the applicant's paid contractor (CH2M HILL) that has been neither published nor peer reviewed. The magical algorithm concludes that providing the minimum 91

habitat to avoid take at 24 NSO activity centers where take is currently prohibited, while liquidating currently suitable habitat at 44 other activity centers (where take is currently prohibited) provides "three times the conservation value that may be lost." Sure it does. 91 cont'd

Please note that Alternative A differs (slightly) from the Proposed Action by establishing CSAs on 25 (rather than 24) NSO activity centers in the planning area. (DEIS 2-51). These 25 activity centers would supplement the LSR network of the Forest Service as opposed to the CHUs established by the USFWS. (DEIS 2-37). The LSR system forms the conservation backbone of the Forest Service's habitat contribution to the survival and recovery of the NSO under the Northwest Forest Plan. Neither the DEIS nor the HCP attempt to explain why retention of NSO activity centers that support the conservation goals of both the LSR and CHU networks is not necessary in order to minimize and mitigate negative impacts to listed species "to the maximum extent practicable." Due to the considerable overlap of the LSRs and CHUs protection of only three NSO activity centers located near CHUs would be dropped if Alternative A were implemented rather than the Proposed Action. (DEIS, 2-41). Similarly, if Alternative A were implemented, only five additional LSR NSO activity centers would receive protection as CSAs. (Commenters recognize that these numbers do not correspond to the 25 vs 24 CSAs identified on page DEIS 2-51, and we do not know how to harmonize the figures on page 2-41.) The applicant, and the agencies, have failed to establish why continuing to prohibit "take" of endangered species at the 29 NSO activity centers located adjacent to federal LSRs and CHUs on page 2-41 of the DEIS is not necessary in order to minimize and mitigate negative impacts to listed species "to the maximum extent practicable." 92

Even in the 1/3rd of the NSO activity centers that would receive CSAs, the DEIS (2-25) only calls for retaining 600 acres of suitable habitat and 1,050 acres of foraging habitat within the CSAs. This is the exact minimum acreage necessary to avoid "take" and corresponds to the current protection required for all 82 NSO activity sites in the Planning Area. Harvest of suitable habitat is even allowed within the 500 acre NSO activity center "core". (DEIS, 2-24). Hence no substantive protections are actually gained by CSA designation. Further, given that the Proposed Action (and Alternative A) are allegedly designed to provide "demographic support" for adjacent federal LSRs and CHUs, it may be that almost all of the minimum protected acreage is in fact provided by federal lands. Such a habitat shell game does not minimize and mitigate negative impacts to listed species "to the maximum extent practicable." Indeed the CSA protection would be much more fairly characterized as the "bare minimum we think we might be able to get away with."

The HCP (6-60) goes as far as to call for the death (take) of an Owl Activity Center (SK262) located within 0.5 miles within CHU 25 supporting a "reproductive pair" of Spotted Owls. Do the agencies contend that issuing ITPs to kill reproducing Owl pairs located adjacent to (and utilizing) critical habitat minimizes and mitigates negative impacts to listed species "to the maximum extent practicable?" 93

Riparian areas and Coho fare little better. The proposed "Class A and B watersheds" correspond exactly with the T&I Watersheds where similar "conservation" measures as those "required" by the HCP are in fact required by law. (DEIS, 2-34). The only additional substantive aquatic conservation measures under the action alternatives involve very minor mitigation measures regarding "road management" and "slope stability" both of which are largely matters of timing, rather than actual additional protections for Coho and their habitat. 94

Please note that "NMFS does not believe that existing CFRRs, broadly applied on California's private timberlands, adequately protect SONCC Coho salmon or provide for proper functioning conditions." DEIS 5-26.

While Alternative A would prohibit stream-side salvage logging (DEIS 2-38) it would not require a road inventory (2-39). Hence the Services have refused to develop or consider a reasonable action alternative that would require a road inventory *and* provide long-term certainty regarding the protection of streamside riparian zones. These should not be mutually exclusive mitigation measures. Page 4-36 of the DEIS contends that implementation of the wider riparian buffers with greater protections under Alternative A would "reduce the amount of sediment delivered to the channel from colluvial or aeolian sources." If this statement is accurate, why is such mitigation not required under all the action alternatives? Is it not practicable? Similarly, why not require a fish passage inventory (as called for in the Proposed Action) in all action alternatives? Do the Services contend that a fish passage inventory is not practicable? 94 cont'd

As stated on page 3-50 of the DEIS "detailed information on aquatic habitats within the planning area is limited." What isn't stated is the reason that such information is limited: the applicants' unwillingness, and the agencies lack of interest, in producing such information prior to the issuance of ITPs in these watersheds. 95

Hence "unpublished" FGS data indicates that large woody debris levels "are less than those found in the reference streams." (DEIS 3-62). Yet the DEIS fails to call for meaningful, quantifiable, measurable levels of LWD to mitigate for the impacts of timber harvest on Coho and their habitat. 96

Similarly, the DEIS (3-62) acknowledges that the applicant manages 45 road/stream crossings that may block anadromous fish habitat. Yet the status of 14 of these crossings is "unknown." (3-62). Hence it is exceedingly difficult to for the reader to know how the DEIS will minimize and mitigate negative impacts to listed species "to the maximum extent practicable." 97

The "unquantified" (DEIS 3-62) withdrawal of water from the Scott River Watershed, which is water quality limited for temperature and goes dry some months due to diversions, does not assure that the HCP will minimize and mitigate negative impacts to listed species "to the maximum extent practicable." 98

The "accelerated" timeframe of 15 years to inventory and treat sediment delivery sites in salmon habitat (DEIS 4-4) seems like a rather long "accelerated" timeframe to qualify as the maximum of mitigation practicable. It appears that the requirements of the Scott River TMDL for sediment require sediment reduction efforts above and beyond what the Services (or FGS' contractor) deem "practicable." 99

MOFFETT CREEK AND BOGUS CREEK.

At 2-33 of the DEIS the agencies contends that Moffett Creek (south of State Highway 3) and Bogus Creek "do not support coho salmon and have no real potential to do so in the future." As with the rest of the DEIS, no data or citations are provided to support this contention. 100

Attached to these comments is a 11/21/09 Memorandum Report by Patrick Higgins regarding Comments on the final Scott River Watershed-Wide Coho Salmon Incidental Take Permitting Program and Shasta River Watershed-Wide Coho Salmon Incidental Take Permitting Program

Environmental Impact Reports. Please note that the report makes reference to, and provides US Forest Service electrofishing citations demonstrating "high coho salmon abundance in 1999, 2002 and 2005 in French Creek, a headwater tributary to Moffett Creek (located south of State Highway 3). The Memo also identifies Sugar Creek (another headwater tributary to Moffett Creek) as a coho-bearing tributary.

Also Attached to these comments is a document obtained from NOAA via a FOIA request by KS Wild for documents regarding this DEIS planning process that is entitled Coho Salmon Adult Returns 2007/2008. That document (provided by NOAA) indicates that Morgan Knechtle of DFG observed 217 Coho return to Bogus Creek in 2007/2008 via video.

Attached to these comments is an April 1998 study prepared by the US Fish and Wildlife Service entitled "Klamath River (Iron Gate Dam to Seiad Creek) Life Stage Periodicities For Chinook, Coho And Steelhead." The document established Coho presence in Bogus Creek via use of a fish weir.

The agencies contention that FGS lands on Bogus Creek above the natural fish barrier are unimportant to Coho ignores cumulative watershed impacts and the tendency of water to flow downstream. The sediment generated by Covered Activities may flow directly into downstream Coho habitat. Furthermore, Coho in Bogus Creek are already being impacted by low flows and alteration of peak flows. (Kier Associates 1999) 100 cont'd

http://www.krisweb.com/biblio/klamath_usfws_kierassc_1999_evaluation.pdf

Additionally, please consider these findings regarding the disproportionate importance of intermittent streams for Coho:

> *In our study of a coastal Oregon watershed, we found that intermittent streams were an important source of coho salmon smolts. Residual pools in intermittent streams provided a means by which juvenile coho could survive during dry periods; smolts that overwintered in intermittent streams were larger than those from perennial streams.*
>
> *-Wigington, P.J., J.L. Ebersole1, M.E. Colvin, S.G. Leibowitz, B. Miller, B. Hansen, H.R. Lavigne, D. White, J.P. Baker, M.R. Church, J.R. Brooks, M.A. Cairns, and J.E. Compton. 2006. Coho salmon dependence on intermittent streams. Front Ecol Environ 2006; 4(10): 513–518.*

Lastly, the East Fork Scott River has coho salmon (QVIC 2009) and FGS holdings in this watershed are mistakenly placed in Class C (no coho). 101

FGS HCP Unlikely to Abate Water Pollution or to Meet TMDL Requirements.

After acknowledgement of the impaired status of the Klamath and Scott Rivers, the FGS HCP characterizes the problem as follows: 102

> "The Stream temperatures in the Plan Area follow the same general seasonal pattern. Temperatures are cool early and late in the summer (May and September). The warmest stream temperatures typically occur during August, corresponding with the highest air

temperatures. Although water temperatures in all streams appear to follow the same general seasonal pattern, temperatures can vary considerably among streams."

In fact, mainstem Klamath River and Scott River are lethal to salmonids, including coho salmon juveniles, for much of the summer and fall, and the cool mouths of tributaries are often the only areas where they can take refuge to survive in summer (Belchik 2003, US EPA 2003). If these areas are lost because of cumulative effects logging damage, the risk of extinction for coho and other Pacific salmon species will be greatly elevated (QVIC 2006, 2008). In order to prevent loss of refugia, the Lower Klamath TMDL states that there will be no net sediment discharge. Activities Covered by the FGS HCP (and IA) will contribute sediment and to cumulative effects in Horse and Beaver Creeks and are not likely to meet TMDL objectives. These refugia are supporting coho juveniles that are not rearing in the tributaries themselves, so their importance to the Klamath metapopulation is extreme. 102 cont'd

The lack of road maintenance, high road densities and crossings and coincidence of FGS holdings with the rain-on-snow zone, means Scott River sediment pulse events are likely with rain-on-snow events that will becoming increasingly common due to global warming (Van Kirk and Naman 2008). 103

UNIQUE CHARACTERISTICS OF THE SISKIYOU CREST.

Much of the Klamath Province FGS timber holdings, where the HCP and ITPs would focus the bulk of the proposed removal of currently suitable occupied NSO habitat, are located in the checkerboard land ownership pattern on the south side of the Siskiyou Crest. The Siskiyou Crest is a high elevation ridge system that forms a major regional link in Pacific Northwest migration and dispersal patterns. Unlike other high elevation landforms in the area, which run north-south (like the Cascade and Coastal Ranges), the Siskiyou Crest runs east-west, from California's Siskiyou Wilderness in the west to Oregon's Cascade-Siskiyou National Monument in the east, a distance of some 90 miles. For the West Coast as a whole it forms the center crossbar in an "H" pattern, with the Cascades and Sierras forming the right-hand backbone, and the Oregon and California Coast Ranges forming the left-hand backbone. This crossbar feature acts as a mid-Pacific continental conveyor to and from its extremes, a land bridge allowing for the ongoing dispersal and migration of species across the landscape, bringing species together to form new genetic combinations. It brings together species from the California coast, the Oregon coast, the Sierra Nevadas, the Cascades, the California Central Valley, the Great Basin, and even the Rocky Mountains. This process is considered by the scientific community as having been important to the region as a whole for the last 60 million years (Please see the Klamath National Forest Mt. Ashland LSR Assessment). This comprises the entire Tertiary and Quaternary geologic periods, from the end of the dinosaurs through the rise to prominence of flowering forbs and grasses, birds, and mammals. 104

Beyond its function as a land bridge, the Siskiyou Crest also supports extraordinarily high levels of species diversity in its own right. Its diversity of elevations, aspects, moisture regimes, its central position at the confluence of many regions, and its great age and geologic diversity, including serpentine outcroppings and glacial features, creates a wide variety of habitat types which support many species whose range limits end at or near the Crest as well as many endemic

species. These species intermingle along the Crest, sometimes forming unique natural communities. The importance of this area has been further acknowledged by the creation of the Cascade-Siskiyou Ecological Emphasis Area in the Bureau of Land Management's Soda Mountain area, the Cascade Siskiyou National Monument also in the BLM's Soda Mountain area, and by the identification of over 12 existing (and more proposed) botanical areas by the U.S. Forest Service.

The Siskiyou Crest is one of the most fragmented, ecologically-critical areas in the Klamath-Siskiyou Bioregion. Implementing protection and restoration for the Siskiyou Crest is complicated by the multiple jurisdictions within which it rests. These include two states (Oregon and California), two U. S. Forest Service regions (Regions 5 & 6), the Bureau of Land Management, and three National Forests (Rogue River and Siskiyou in Oregon and Klamath in California) and industrial landowners such as FGS. This challenge also represents one of the important lessons to be learned from this project: how to develop comprehensive protection and restoration strategies that address multiple centers of management and political arenas.

The HCP DEIS addresses none of the locally and regionally significant issues regarding management of this unique resource. Please see:

Stritholt J.R., R. F. Noss, P. A Frost, K. Van-Borland, C. Caroll, G. Heilman, Jr. 1999. A conservation assessment and science based plan for the Klamath-Siskiyou.
http://consbio.org/cbi/pubs/index.htm

Rogue River National Forest, Klamath National Forest. 1996. Late-Successional Reserve Assessment; Mt. Ashland Late Successional Reserve Assessment (#RO-284).

104 cont'd

Many of the potential site specific and cumulative impacts to Siskiyou Crest species such as Great Grey Owls, Wolverine and Pacific Fishers are not adequately disclosed and analyzed in the DEIS.

The Siskiyou Crest is increasingly being recognized by climate scientists as a disproportionately important area to protect as part of a regional and national strategy to mitigate the coming climate crisis.

The distinctive east to west 'Land Bridge' feature of the Siskiyou Crest, combined with its network of relatively intact roadless areas and forests, gives the area a critical regional role as a dispersal and migration conduit for species and ecosystems moving across the landscape in response to the impacts of climate change scientists predict are imminent. It is also predicted that the varied microclimates of the Crest will provide important habitat for many species as they are forced north and to higher elevations to find suitable habitat.

"The complex of roadless areas along the Siskiyou Crest needs to be protected as a whole for its function as a crossroads of biodiversity. As the climate crisis unfolds we are going to see climate-forced migrations of wildlife with models projecting that we will see a shift in whole habitats up in elevation and north in latitude. A solid climate change strategy is to look at this landscape as a climate refuge. We are all going to need this landscape as our climate shifts, not just for its wildlife values, but for its ecosystem services like carbon sequestration and drinking water. These areas are key to our own survival and should be set aside as a national carbon

trust." Dominick Dellasala, President of NCCSP (personal communication).

The wildlands surrounding the Siskiyou Crest are part of an ancient climate refuge where many species once widespread across the continent were forced to retreat during past climate shift events and now persist as 'relict species', found here and nowhere else on earth. Species in this category include the endemic Siskiyou Mountains Salamander, Port-Orford Cedar and the Weeping or 'Brewer's' Spruce. It is highly likely that the Crest will provide the same service in the near future.

This natural climate resiliency, resulting from of a combination of a stable, mild regional climate, and extremely complex geology and topography which create a tremendous diversity of microclimates, is a key reason this area stands out as a conservation priority. 104 cont'd

In addition to its role as a refuge and travel corridor for species affected by climate change, this area is an enclave of intact forests that provide crucial carbon sequestration. Recent studies show that the forests and soils of Oregon and northern California's mature forests store even more carbon than previously estimated (*Oregon State University (2009, July 3). Pacific Northwest Forests Could Store More Carbon, Help Address Greenhouse Issues).* http://oregonstate.edu/ua/ncs/archives/2009/jul/pacific-northwest-forests-could-store-more-carbon-help-address-greenhouse-issues

THE ENDANGERED SPECIES ACT.

The Endangered Species Act is the primary federal statute that protects and recovers individual species. Section 9 of the ESA and its implementing regulations prohibit any person from "taking" a threatened or endangered species. 16 U.S.C. § 1538(a)(1); 50 C.F.R. § 17.31. A "person" includes private parties as well as local, state, and federal agencies. 16 U.S.C. § 1532(13). "Take" is defined broadly under the ESA to include harming, harassing, trapping, capturing, wounding, or killing a protected species either directly or by degrading its habitat sufficiently to impair essential behavior patterns. 16 U.S.C. § 1532(19). The ESA not only bans the acts of parties directly causing a take, but also bans the acts of third parties whose acts bring about the taking.

Congress created two "incidental take" exceptions to section 9's prohibition on takings. One of these exceptions is found in section 10 of the ESA. Section 10(a)(1)(B) authorizes the FWS to issue private parties and state and local governmental entities incidental take permits ("ITP") for "any taking otherwise prohibited by section 1538(a)(1)(B) [section 9] of this title if such taking is incidental to and not the purpose of the carrying out of any otherwise lawful activity." 16 U.S.C. § 1539(a)(1)(B). 105

A permit applicant must prepare and submit to FWS a habitat conservation plan ("HCP"). 16 U.S.C. § 1539(a)(1)(B). An HCP must contain specific measures to "conserve," or provide for the recovery of, the species. At a minimum, the ESA and implementing regulations require all HCPs to include the following: (1) a complete description of the activity sought to be authorized; (2) names of the species sought to be covered by the permit, including the number, age and sex of the species, if known; (3) the impact which will likely result from such taking; (4) what steps the applicant will take to monitor, minimize, and mitigate those impacts; (5) the funding that will

be available to implement such monitoring, minimization, and mitigation activities; (6) the procedures to be used to deal with unforeseen circumstances; and (7) what alternative actions to such taking the applicant considered and the reasons why such alternatives are not being utilized. 16 U.S.C. § 1539(a)(2)(A)(i)-(iv); 50 C.F.R. §§ 17.22, 17.32. FWS cannot issue an incidental take permit if the HCP does not contain this information. 16 U.S.C. § 1539(a)(2)(A).

105 cont'd

In our experience, FGS has demonstrated a reluctance, if not hostility, toward environmental stewardship. The reason that the reproductive history, age, and sex of NSO activity centers is unavailable is because FGS has failed to perform anything like comprehensive surveys. This failure is particularly remarkable in that FGS was working toward a HCP over the past decade.

Further, we are concerned about the 50-year financial stability of FGS. Given current timber prices and given that FGS has already cut most of the merchantable timber on its land, it is hard to see FGS's business model being stable through the timeframe of the proposed HCP. In order to approve an ITP, FGS must *ensure* adequate funding of its HCP. In the absence of a sizeable bond, we just don't see how that's possible and the DEIS fails to address this issue.

106

No one is entitled to take authorization. *Southwest Center For Biological Diversity v. Bartel,* 470 F.Supp.2d 1118 (S.D.Cal. 2006). The application for a permit does not define the ITP; instead the ESA states that the application identifies "such other measures that the Secretary may require as being necessary or appropriate for purposes of the plan." 16 USCA § 1539(a)(2)(A)(iv). Yet throughout the DEIS alternatives are designed primarily to meet the short-term economic desires of the applicant and the analysis consists largely of re-hashing the rosy projections of the applicant's contractor as if they constitute an unbiased "hard look" at the Proposed Action. The ITP does not need to be "in accordance" with the HCP; rather the reverse is true and FWS determines the terms and conditions under which the applicant obtains an exception to the ESA § 9 take prohibition. Failure to comply with the mandatory terms and conditions of an incidental take permit constitutes a violation of the section 9 "take" prohibition. 16 U.S.C. § 1539(a)(2)(C). *Id.* The decision whether to issue an ITP is based on the following issuance criteria, all of which must be taken into account by the FWS and NOAA. Below, we list the issuance criteria and discuss factors related to each the consideration of which we believe is necessary for a legally defensible ITP.

The agencies must deny the ITP under 50 CFR § 13.21(b) if (1) FGS has been fined or convicted under any law relating to their use of their property, if (2) they've failed to disclose material information or made false statements in their application, if (3) they've failed to demonstrate a valid justification for the permit or if (4) they've not made an adequate showing of responsibility. The agencies must also deny the permit if (5) they find that the applicant is not qualified.

107

We wonder what adequate showing of responsibility FGS has made to justify this permit. As we have already written, FGS has not been a careful steward of its land. Less than 1% of its lands in the planning area are late seral. (DEIS 3-28). Fine sediment is adversely affecting spawning areas in Beaver, Cottonwood, Doggett and Moffett Creeks. (DEIS, 3-59). Its current harvest practices are "unsustainable" and without access (via ITPs) to occupied suitable habitat future harvest levels may "decline toward zero." (DEIS 4-55). The quality of its habitat has declined over the years. Its THPs are internally inconsistent, legally deficient documents that have led the to gradual extirpation of listed species from its property. The DEIS contains no analysis to support a conclusion that FGS is qualified to administer a HCP that justifies an ITP.

The agencies may approve an ITP under 50 CFR §17.22(b)(1)(i) if (1) they find the proposed take is incidental to lawful activity, that (2) FGS will minimize and mitigate the impacts of such taking to the maximum extent practicable, (3) FGS will ensure adequate funding for the HCP, that (4) the HCP will provide procedures to deal with unforeseen circumstances, that (5) the take will not appreciably reduce the likelihood of survival and (6) recovery of the species, that (7) FGS will meet the necessary and appropriate measures the agencies require for species protection and that (8) FGS can otherwise adequately assure that the plan will be implemented as agreed. These measures must *all* be met, and the failure of any one disqualifies the HCP from receiving an ITP.

The ESA only allows take incidental to a lawful activity, but FGS has generally failed to meet the legal requirements of the FPA. Its THPs lack cumulative effects analysis. They routinely propose in lieu practices that exceed maximum acreage standards, allow harvest in winter months and allow the use of heavy machinery on slopes exceeding 50%. With increasing public oversight, we believe that many FGS THPs will be ruled illegal. Apart from the FPA, FGS regularly engages in behavior that results in the discharge of pollutants from a point source into waters of the United States. Such activity, when conducted without a permit, violates the Clean Water Act. In conclusion, we hope for an independent determination by the action agencies that the practices FGS regularly utilize on their property are, in fact, lawful activities. Any approved HCP should require federal oversight to ensure such activities are and remain lawful under state and federal law. 108

The standard for the HCP set by the ESA is to minimize and mitigate impacts to the maximum extent practicable. The additional requirement that the HCP ensure that the taking authorized will not appreciably reduce the likelihood of survival and recovery of covered species is the absolute floor. At this point, any incidental take of NSO or NSO habitat will have a net negative impact on the species because they have already destroyed the viable habitat within the planning area. 109

There is no way to mitigate the loss of remaining nesting and roosting habitat because appropriate nesting and roosting habitat requires large, old and often dead trees. The only such trees remaining on FGS property are those that are currently inhabited by owls and are the very trees that FGS proposes to cut under its ITP. The FWS website notes that The Services believe that assurances should be provided to the private sector when economic development projects that provide long-term conservation *benefits* to species through implementation of HCPs.[1] 110

Given the zero-sum nature of NSO habitat on Fruit Growers property, we don't see how FWS can allow any "take" and nevertheless provide for the recovery of the species. The ESA is very clear that anything less would be illegal. Federal agencies have an affirmative duty to promote the conservation (*i.e.*, recovery) of threatened and endangered species. Section 2(c) of the ESA provides that it is "…the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act." 16 U.S.C. §1531(c)(1). Section 7(a)(1) also establishes an affirmative duty to conserve. 16 U.S.C. § 1536(a)(1). If FWS grants a permit on the basis of this HCP without requiring additional minimization and mitigation of impacts to the plover, it will be in violation of its duties under Sections 2 and 7 of the ESA. In California *(Southwest Center for Biological Diversity v. Bartel,* 470 F. Supp. 2d 1118 (S.D. Cal., 2006). and Alabama 111

[1] http://www.fws.gov/endangered/HCP/NOSURPR.HTM

(Sierra Club v. Babbitt, 1998*)*, District Courts held that HCPs and Incidental Take Permits have to provide for species recovery as defined by the word "conservation" in the ESA.

It may be, however, that issuing an ITP to FGS would not just imperil recovery, but could also cause jeopardy. Given the pressures faced by the NSO in Canada, Washington and, increasingly in Oregon, the take requested in FGS's HCP would place the continued viability of the species in jeopardy. Nor is the impact proposed by FGS likely to be trivial when compared against the overall range of the NSO. The HCP is proposed to cover 154,000 acres in the middle of the last remaining prime source NSO habitat. Reducing the viability of that habitat could jeopardize the continued viability of the NSO in the wild. 111 cont'd

We, as discussed above, have concerns as to whether FGS can provide adequate funding for the HCP, whether FGS will meet the necessary and appropriate measures the agencies require for species protection and whether FGS can otherwise adequately assure that the plan will be implemented as agreed. We believe that key to any proper analysis of the merits of this plan is that FGS open its books and that the contractual language in the ITP require very strict adherence to terms that are actually likely to lead to species recovery. Under Section 10(a)(2)(C), FWS must revoke any ITP issued if "the permittee is not complying with the terms and conditions of the permit." However, the availability of permit revocation does not remedy the flaws of an HCP relying on highly speculative conservation measures. Nor should permit revocation be the only enforcement tool available for ensuring implementation of the HCP. 112

FWS and NMFS issued the "No Surprises" rule in 1998, 63 Fed. Reg. 8,859 (Feb. 23, 1998). That rule revised Part 17 of the Code of Federal Regulations and provides that as long as the HCP is being properly implemented, the federal government will not require any additional mitigation from the Permittees in the event of unforeseen circumstances. Additional measures deemed necessary to respond to changed circumstances, including the listing of new species, will be limited to those measures specifically identified in the HCP and only to the extent of the mitigation specified. The No Surprises rule has been in almost continuous litigation from its inception has been revised several times. The HCP must not include this illegal provision. 113

ESA § 7 requires internal consultation and the issuance of a biological opinion ("BO"). To approve the ITP, the agencies must insure that the permit does not (1) jeopardize an endangered species or (2) destroy critical habitat and (3) the Agencies must consult with the secretary regarding activity that may affect a listed species and draft a biological opinion within 180 days using best scientific data available.

In addition to section 10 "take permits," Congress also created incidental take statements to exempt federal agencies from section 9's take prohibition. 16 U.S.C. § 1536(a)(2). Upon concluding the section 7 consultation process on the HCP, the FWS may issue a "take statement" after rendering a "no jeopardy" biological opinion. *Id*. at § 1536(b)(4)(A). An incidental take statement must (1) specify the impacts on the species, (2) specify the reasonable and prudent measures that the FWS considers necessary to minimize such impact, and (3) set forth terms and conditions that must be complied with by the federal agency to implement these reasonable and prudent measures. 16 U.S.C. § 1536(b)(4). Failure to comply with the mandatory terms and conditions of a take statement renders the agency's action in violation of the take prohibition. Pursuant to Section 7(a)(2) of the ESA, before granting the application for an ITP, FWS must "insure" that the HCP ITP "is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat of such 114

species . . . determined . . . to be critical . . .” 16 U.S.C. § 1536(a)(2). To fulfill this mandate, FWS must engage in self-consultation on its action, which “may affect” listed species. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(a).

Consultation under Section 7(a)(2) on the HCP’s covered activities will result in the preparation of a Biological Opinion (“BO”) by FWS that determines if the proposed action is likely to jeopardize the continued existence of a listed species or adversely modify a species’ critical habitat. While FWS has not yet issued the BO on the HCP, the BO must include a summary of the information on which it is based and must adequately detail and assess how the action affects listed species and their critical habitats. 16 U.S.C. § 1536(b)(3).

Additionally, if the BO concludes that the agency action is not likely to jeopardize a listed species or adversely modify its critical habitat, it must include an Incidental Take Statement which specifies the impact of any incidental taking, provides reasonable and prudent measures necessary to minimize such impacts, and sets forth terms and conditions that must be followed. 16 U.S.C. § 1536(b)(4). If FWS’s action may affect a listed species, the absence of a valid BO means that the action agency has not fulfilled its duty to insure its actions will neither jeopardize a listed species nor adversely modify the species’ critical habitat. 114 cont'd

The BO must include an evaluation of the direct, indirect, and cumulative effects of the action on listed species. 16 U.S.C. § 1536(a)(2); 50 CFR §§ 402.02, 402.12, 402.14(d), 402.14(g)(3). In addition to effects of other federal actions, “cumulative effects” include “effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation.” 50 C.F.R. § 402.02.

Throughout its analysis, the BO must utilize the “best scientific and commercial data available.” 16 U.S.C. § 1536(a)(2); 50 C.F.R. §402.14(d). FWS must consider all the relevant factors and articulate a rational connection between the facts and its ultimate conclusion. If an action’s impact on a species’ habitat threatens either the recovery or the survival of a species, the BO must conclude that the action adversely modifies critical habitat. The ESA defines critical habitat as areas which are “essential to the conservation” of listed species. 16 U.S.C. § 1532(5)(A). The ESA’s definition of “conservation” includes the recovery of species. *See* 16 U.S.C. § 1532(3). As discussed above in relation to § 10, we feel that the action agencies must carefully consider both whether any FGS HCP can facilitate recovery or avoid jeopardy.

CONCLUSION.

We, the undersigned, are skeptical that any HCP proposed by FGS could satisfy the legal requirements of the ESA. Further, given the treatment of public, tribal and agency scoping comments in the development of the action alternatives contained in the DEIS, we are skeptical that substantive public comments, or the existence of scientific controversy, will alter the Services’ pre-ordained decision to issue ITPs to expedite the removal of mature forest habitat in the planning area. The aquatic mitigation measures identified in the DEIS and HCP do not appear to us to be a substantial improvement over the status quo; rather they appear to be the very minimum the applicant believes it can get away with. Hence we do not believe that a good faith effort has been made to ensure that the HCP planning process adheres to the requirements of NEPA or the ESA. 115

Sincerely,

George Sexton
Conservation Director
Klamath Siskiyou Wildlands Center
P.O. Box 102
Ashland, OR 97520
(541) 488-5789
gs@kswild.org

Scott Greacen
National Forest Program Coordinator
EPIC – Environmental Protection Information Center
#122
600 F. Str. Suite 3
Arcata, CA 95521

Kimberly Baker
Forest and Wildlife Coordinator
Klamath Forest Alliance
PO Box 21
Orleans, CA 95556

Doug Heiken
Conservation and Restoration Coordinator
Oregon Wild
PO Box 11648
Eugene OR 97440-3848

Bob Musgrove
Executive Committee
Shasta Group of the Sierra Club
507 Meadow Ave.
Mount Shasta CA 96067

Cascadia Wildlands
Josh Laughlin
Conservation Director
P.O. Box 10455
Eugene, OR 97440

Justin Augustine
Center for Biological Diversity
351 California Street, Suite 600

San Francisco, CA 94104

BIBLIOGRAPHY

Altman, B., and R. Sallabanks. 2000. Olive-sided flycatcher (*Contopus cooperi*). *In* A. Poole and F. Gill, editors. The birds of North America, number 502. The Birds of North America, Philadelphia, Pennsylvania, USA.

Bock, C.E. and J.F. Lynch. 1970. *Breeding bird populations of burned and unburned conifer forest in the Sierra Nevada.* Condor 72: 182-189.

Belchik, Michael, 2003. *Use of Thermal Refugial Areas on the Klamath River by Juvenile Salmonids; Summer 1998.* http://www.yuroktribe.org/departments/fisheries/documents/thermalrefugiareportFINAL1998_000.pdf

Beschta, R., Frissell, C., Gresswell, R., Hauer, R., Karr, J., Minshall, G.,Perry, D., and Rhodes, J., 1995. *Wildfire and Salvage Logging, Recommendations for Ecologically Sound Post-Fire Salvage Management and Other Post-Fire Treatments.*

Beschta R.L., J.J. Rhodes, J.B. Kauffman, R.E. Gresswell, G.W. Minshall, J.R. Karr, D.A. Perry, F.R. Hauer, and C.A.Frissell, 2004. *Postfire management on forested public lands of the western USA*. Cons. Bio., 18:1-11.

Biswell, H.H. 1974. Effects of fire on chaparral. *In* Fire and Ecosystems, edited by T.T. Kozlowski and C.E. Ahlgren, 321-364. New York: Academic Press.

Brown, J. Reinardt, Elizabeth, Kramer, Kyle. 2003. *Coarse Woody Debris: Management Benefits and Fire Hazard In the Recovering Forest*. Gen. Tech Rep. RMRS-GTR-105. Ogden UT: US Dept. of Ag, Forest Service, Rocky Mountain Research Station. 16 p.

Carroll, Johnson. 2008. *The Importance of Being Spatial (and Reserved): Assessing Northern Spotted Owl Habitat Relationships with Hierarchical Baysesian Models*. Conservation Biology.

Chang, C. 1996. *Ecosystem responses to fire and variations in fire regimes.* Pages 1071-1099 *in* Sierra Nevada Ecosystem Project, Final Report to Congress, Volume II. University of California at Davis, Centers for Water and Wildland Resources.

Connell, J.H. 1978. *Diversity in tropical rain forests and coral reefs.* Science 199: 1302-1310.

Countryman, C.M. 1955. *Old-growth conversion also converts fire climate.* Fire Control Notes 17(4): 15-19.

Collison, A., W. Emmingham, F. Everest, W. Hanneberg, R. Martston, D. Tarboton, R. Twiss. 2003. *Phase II Report: Independent Scientific Review Panel on Sediment Impairment and Effects on Beneficial Uses of the Elk River and Stitz, Bear, Jordan and Freshwater Creeks*. Independent Science Review Panel performed analysis on retainer to the North Coast Regional water Quality Control Board, Santa Rosa, CA.

(CWWR) Centers for Water and Wildland Resources, 1996. *Sierra Nevada Ecosystem Project Report, Summary and Final Report to Congress, Summary and Vol. I-III*. Wildland Resources Center Report No. 39, University of California, Davis.

DeGross, D.J. 2004. Gene Flow and the Relationship of *Plethodon stormi* and *P. elongatus* Assessed with 11 Novel Microstellite Loci. Thesis. Oregon State University, Corvallis, Oregon. April 16, 2004.

DellaSala, D.A. and E. Frost. 2001. *An ecologically based strategy for fire and fuels management in national forest roadless areas*. Fire Management Today 61(2): 12-23.

DellaSala, D.A., D.M. Olson, S.E. Barth, S.L. Crane and S.A. Primm. 1995. *Forest health: moving beyond rhetoric to restore healthy landscapes in the inland northwest*. Wildlife Society Bulletin 23(3): 346-356.

Dixon, R.D., and V.A. Saab. 2000. Black-backed woodpecker (*Picoides arcticus*). In: The birds of North America, No. 509 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.

Donato D.C., J.B. fontaine, L.L. Campbell, W.D. Robinson, J.B. Kauffman, B.E. Law. 2006. *Post-Wildfire Logging Hinders Regeneration and Increases Fire Risk*. Science January 5, 2006.

Dunne, T., J. Agee, S. Beissinger, W. Dietrich, D. Gray, M. Power, V. Resh, and K. Rodrigues. 2001. *A scientific basis for the prediction of cumulative watershed effects. The University of California Committee on Cumulative Watershed Effects.* University of California Wildland Resource Center Report No. 46. June 2001. 107 pp.
http://www.krisweb.com/biblio/gen_ucb_dunneetal_2001_cwe.pdf

Everett, R. 1995. Review of Beschta document. Memorandum to Regional Forester. August 16. 8 pp.

De la Fuente, D Elder, 1998. The flood of 1997, *Klamath National Forest, Phase I Final Report.* J US Forest Service Tech. Rep, 1998.

Fischer, C. 2003. *Monitoring Land Cover Changes in California, North Coast Project Area (1994-1998).* California Department of Forestry FRAP and USFS Spatial Analysis Lab, Sacramento, CA.

Furniss, M.J., Roelofs, T.D., and Yee, C.S., 1991. *Road construction and maintenance. Influences of Forest and Rangeland Management on Salmonid Fishes and Their Habitats*, Am. Fish. Soc. Special Publ. 19: 297-323.

Frost and Sweeny 2000. *Fire Regimes, Fire History and Forest Conditions in the Klamath-Siskiyou Region: An Overview and Synthesis of Knowledge.* World Wildlife Fund.

Granholm, S.L. 1982. *Effects of Surface Fires on Birds and Their Habitat Associations in Coniferous Forests of the Sierra Nevada, California.* Ph.D. diss., Univ. of California, Davis.

Hann, W.J., J.L. Jones, M.G. Karl, P.F. Hessburg, R.E. Keane, D.G. Long, J.P. Menakis, C.H. McNicoll, S.G. Leonard, R.A. Gravenmier and B.G. Smith. 1997. *Landscape dynamics of the basin*. Ch. 3 in: T.M. Quigley and S.J. Arbelbide (tech. eds.). An *Assessment of Ecosystem Components in the Interior Columbia Basin and Portions of the Klamath and Great Basins*: Vol. II. USDA For. Serv. Pac. Nor. Res. Sta. Gen. Tech. Rep. PNW-GTR-405. Portland, OR. June.

Hanson, C.T. 2007. *Post-fire management of snag forest habitat in the Sierra Nevada. Ph.D. dissertation, University of California at Davis.* Davis, CA.

Harr, D.R., R.L. Fredriksen, and J. Rothacher 1979. *Changes in Streamflow Following Timber Harvest in Southwestern Oregon.* Research Paper PNW-249. February 1979. Pacific Northwest Forest and Range Experiment Station, U.S. Department of Agriculture, Forest Service, Portland, Oregon.

Harr, R.D. and R.A. Nichols. 1993. *Stabilizing Forest Roads to Help Restore Fish Habitats: A Northwest Washington Example.* Fisheries 18(4): 18-22.

Huff, M.H., R.D. Ottmar, E. Alvarado, R.E. Vihnanek, J.F. Lehmkuhl, P.F. Hessburg, and R.L Everett. 1995. *Historical and current landscapes in eastern Oregon and Washington. Part II: Linking vegetation characteristics to potential fire behavior and related smoke production.* USDA For. Serv. Pac. Nor. Exp. Sta. Gen. Tech. Rep. PNW-GTR-335. Portland, OR. October.

Hutto, R.L. 1995. *Composition of bird communities following stand-replacement fires in northern Rocky Mountain (U.S.A.) conifer forests.* Conservation Biology 9: 1041-1058.

Hutto, R.L. 2006. *Toward meaningful snag-management guidelines for postfire salvage logging in North American conifer forests.* Conservation Biology 20: 984-993.

Hutto, R.L., and S.M. Gallo. 2006. *The effects of postfire salvage logging on cavity-nesting birds.* Condor 108: 817-831.

Kier Associates. 1991. *Long Range Plan for the Klamath River Basin Conservation Area Fishery Restoration Program.* Klamath River Basin Fisheries Task Force. Yreka, CA.

Kier Associates. 1999. *Mid-term evaluation of the Klamath River Basin Fisheries Restoration Program.* Sausalito, CA. Prepared for the Klamath River Basin Fisheries Task Force. 303 pp.

Kellog, L., Han, H.S., Mayo, J., and J. Sissel, *Residual Stand Damage from Thinning- Young Stand Diversity Study*. Cascade Center for Ecosystem Management.

Kier Associates. 1999. *Mid-term evaluation of the Klamath River Basin Fisheries Restoration Program.* Sausalito, CA . Prepared for the Klamath River Basin Fisheries Task Force. 303 pp.

Kotliar, N.B., S.J. Hejl, R.L. Hutto, V.A. Saab, C.P. Melcher, and M.E. McFadzen. 2002. *Effects of fire and post-fire salvage logging on avian communities in conifer-dominated forests of the western United States.* Studies in Avian Biology 25: 49-64.

Ligon, F., A. Rich, G. Rynearson, D. Thornburgh, and W. Trush. 1999. *Report of the Scientific Review Panel on California Forest Practice Rules and Salmonid Habitat.* Prepared for the Resources Agency of California and the National Marine Fisheries Service; Sacramento, CA.

McIver, J.D., and L. Starr. 2000. *Environmental Effects of Postfire Logging: Literature Review and Annotated Bibliography.* USDA Forest Service Gen. Tech. Rep. PNW-GTR-486. January. 72 pp.

Mahoney, M.J. 2004. Molecular systematics and phylogeography of the *Plethodon elongatus* species group: combining phylogenetic and population genetic methods to investigate species history. Molecular Ecology 13, 149-166.

Marsh, David B., Noelle Beckman. 2004. *Effects of Roads on the Abundance and Activity of Terrestrial Salamanders*. Ecological Applications, 14(6), 2004, pp. 1882-1891.

Mead, L., Clayton, D., Nauman, R., Olson, D., Pfrender, M. 2005. Newly Discovered Populations of Salamanders from Siskiyou County represent a species distinct from *Plethodon stormi. Herpetologica*, 61(2): 158-177.

Medler, M. (abstract), 3rd International Fire Ecology & Management Congress (http://emmps.wsu.edu/firecongress), San Diego, CA, USA, November 13-17, 2006.

Mehagan, W.F. 1981. *Effects of silvicultural practices on erosion and sedimentation in the interior west –a case for sediment budgeting.* Interior West Watershed Management. Proc. Symp., April, 1980 Spokane, Washington State University. Pullman WA. Pp. 169-181.

Montgomery, DR. WE Dietrich. 1993. *A Physical Model for the Topographic Control on Shallow Landsliding.* Water Resources Research, 30(4), 1153-1171.

National Marine Fisheries Service (NMFS). 2008a. *Environmental Protection Agency Registration of Pesticides Containing Chlorpyrifos, Diazinon, and Malathion. National Marine Fisheries Service Endangered Species Act Section 7 Consultation Biological Opinion.* NMFS, Silver Springs Md. 478 p.

Noss et al. 2006. *Ecological Science Relevant to Management Policies for Fire-prone Forests of the Western United States*. Society for Conservation Biology, February 24, 2006.

Odion et al. 2004. *Patterns of Fire Severity and Forest Conditions in the Western Klamath Mountains, California*. Conservation Biology, Volume 18, No. 4 pages 927-936.

Ollivier, L.M., H.H. Welsh, Jr., D.R. Clayton. 2001. *Habitat correlates of the Siskiyou*

Mountains salamander, Plethodon stormi with comments on the species' range. U.S. Department of Agriculture Forest Service, Redwood Science Laboratory, 1700 Bayview Drive, Arcata, CA 95521. June, 2001.

Oregon State University (2009, July 3). *Pacific Northwest Forests Could Store More Carbon, Help Address Greenhouse Issues*.

Ortega, Yvette K, David Capen. 1999. *Effects of Forest Roads on Habitat Quality For Ovenbirds in a Forested Landscape*. The Auk 116(4): 937-946.

Noss et al. 2006. *Ecological Science Relevant to Management Policies for Fire-prone Forests of the Western United States*. Society for Conservation Biology, February 24, 2006.

Perry, D.A. 1995. *Self-organizing systems across scales.* Trends in Ecology and Evolution 10: 241-244.

Pfrender, Michael E., and T.Titus. 2002 *Genetic structure, biogeographic patterns, and founder events in the Siskiyou Mountains Salamander.*

Potyondy, J.P., G.F. Cole, and W.F. Megahan. 1991. *A procedure for estimating sediment yields from forested watersheds*. Pages 12-46 to 12-54 in Proceedings: Fifth Federal Interagency Sedimentation Conference. Federal Energy Regulatory Commission., Washington, D.C.

Quartz Valley Indian Reservation. 2005. *Comments on the Scott River Watershed Sediment and Temperature TMDL.* QVIR, Fort Jones, CA.

Quartz Valley Indian Community. 2006a. *Scoping Comments on Scott River Basin Agricultural Coho Salmon Incidental Take Permit. Submitted to CDFG,* Region 1 by QVIR. ITP filed with CDFG. 23 p.

Quartz Valley Indian Community. 2006b. *Comments Concerning the Klamath River TMDL Approach and Progress to Date.* Memo to the U.S. EPA and North Coast Regional Water Quality Control Board of August 15, 2006. Quartz Valley Indian Reservation, Fort Jones, CA. 35 p.

Quartz Valley Indian Community. 2007. *Comments on Klamath River Nutrient, Dissolved Oxygen, and Temperature TMDL Implementation Plan Workplan Outline for CA (NCRWQCB, 2007).* Quartz Valley Indian Community, Fort Jones, CA. 30 pp.

Quartz Valley Indian Community. 2008. *Comments on Draft Scott River Basin Agricultural Coho Salmon Incidental Take Permit.* Submitted to CDFG, Region 1 by QVIR. ITP filed with CDFG. 29 p.

Quartz Valley Indian Community. 2009. *Comments on Public Review Draft and Staff Report for the Klamath River Total Maximum Daily Loads (TMDLs) and Action Plan Addressing Temperature, Dissolved Oxygen, Nutrient, and Microcystin Impairments in California.* Submitted by Crystal Bowman. QVIR, Ft. Jones, CA. 39 p.

Quartz Valley Indian Community. 2009a. *Scott River Adult Steelhead and Lamprey Dive Summary 2007-2009.* Conducted in cooperation with Karuk DNR. QVIR, Ft. Jones, CA. 39 p.

Raphael, M.G. and M. White. 1984. *Use of Snags by Cavity-Nesting Birds in the Sierra Nevada.* Wildlife Monographs 86: 1-66.

Rhodes, J.J., McCullough, D.A., and Espinosa Jr., F.A., 1994. *A Coarse Screening Process for Evaluation of the Effects of Land Management Activities on Salmon Spawning and Rearing Habitat in ESA Consultations.* CRITFC Tech. Rept. 94-4, Portland, Or. http://www.critfc.org/text/tech_rep.htm

Rocca, M.E. 2004. Spatial considerations in fire management: the importance of heterogeneity for maintaining diversity in a mixed-conifer forest. Ph.D. diss., Duke University, Durham, NC, USA.

Rothermel, R. 1991. *Predicting behavior and size of crown fires in the northern Rocky Mountains.* USDA For. Serv. Rocky Mtn. Res. Sta. Gen. Tech. Rep. INT-GTR-438. Ogden, UT.

Saab, V.A., R. Brannon, J. Dudley, L. Donohoo, D. Vanderzanden, V. Johnson, and H. Lachowski. 2002. *Selection of fire-created snags at two spatial scales by cavity-nesting birds.* Pages 835-848 *in* P.J. Shea, W.F. Laudenslayer Jr., B. Valentine, C.P. Weatherspoon, and T.E. Lisle (eds.), Proceedings of the symposium on the ecology and management of dead wood in western forests, November 2-4, 1999, Reno, Nevada. U.S. Forest Service, General Technical Report PSW-GTR-181.

Saab, V.A., J. Dudley, and W.L. Thompson. 2004. *Factors influencing occupancy of nest cavities in recently burned forests.* The Condor 106: 20-36.

Sapsis, D.B. and C. Brandow. 1997. *Turning plantations into healthy, fire resistant forests: Outlook for the Granite Burn.* California Dept. of Forestry and Fire Protection, Fire and Resource Assessment Program.

Scott, Ralph G. et al. 1980. *South Fork Trinity River Watershsed Study*. Symp. On Watershed Management, 1980, Vol. 1. Amer. Soc. Civil Eng.m Boise Idaho, July 21-23, 1980.

Shatford, J.P.A.; Hibbs, D.E.; Puettmann, K.J. Journal of Forestry. Volume 105, Number 3, April/May 2007, pp. 139-146(8).

Siegel, R.B, and R.L. Wilkerson. 2005. *Short- and long-term effects of stand-replacing fire on a Sierra Nevada bird community. Final report for the 2004 field season.* The Institute for Bird Populations. Point Reyes Station, California.

Smith, Jane Kapler, ed. 2000. *Wildland fire in ecosystems: effects on fire on fauna. U.S. Forest Service General Technical Report RMRS-GTR-42.* Volume 1. U.S. Forest Service, Rocky Mountain Research Station, Missoula, MT, USA, 83 p.

Smucker, K.M., R.L. Hutto, and B.M. Steele. 2005. *Changes in bird abundance after wildfire: importance of fire severity and time since fire.* Ecological Applications 15: 1535-1549.

Swanston, D.N. and C.T. Dyrness. 1973. *Stability of Steep Land*. J. Forestry. 71(5): 264-269.

Thompson, JR, TA Spies, LM Ganio, 2007. *Reburn Severity in Managed and Unmanaged Vegetation in a Large Wildfire*. Proceedings of the National Academy of Sciences.

Trombulack, S.C. and C.A. Frissell. 2000. *Review of ecological effects of roads on terrestrial and aquatic communities.* Conservation Biology 14(1): 18-30.

United States Environmental Protection Agency (USEPA). 2003. *EPA Region 10 Guidance for Pacific Northwest State and Tribal Water Quality Standards.* Region 10, Seattle, WA. EPA 910-B-03-002. 49pp. Accessed June 23, 2004. Available at: http://www.epa.gov/r10earth/temperature.htm

US General Accounting Office. 1999. *Western National Forests: A Cohesive Strategy is Needed to Address Catastrophic Wildfire Threats.* Report to the Subcommittee on Forests and Forest Health, Committee on Resources, House of Representatives (GAO/RCED-99-65). Washington, D.C. April.

USDA, USDI Species Review Panel. 2001. Species Review Process Step 2 Worksheet (In Depth Analysis). Reviewers: David Clayton, Dede Olson, Stave Morey, Brenda Devlin, Hartwell Welsh, Richard Nauman, Charile Crisafulli. U.S. Department of Agriculture Forest Service and U.S. Department of Interior Bureau of Land Management. April 27, 2001.

USDI, Bureau of Land Management, Medford District Office. 2005. *Wasson Fire Salvage EA #*OR 115-06-02. Butte Falls Resource Area. Medford Or.

USDI, BLM, Medford District Office. 2003. *Timbered Rock Fires Salvage and Elk Creek Watershed Restoration Draft Environmental Impact Statement*. Butte Falls Resource Area. Medford Or.

USDI, BLM, Medford District Office. 1997. *Deer Creek Watershed Analysis*. Grants Pass Resource Area. Medford Or.

USDI, BLM, Medford District Office. 1995. *Medford District Record of Decision and Resource Management Plan*. Government Printing Office. Medford Or.

U.S. Forest Service. 2006. *Plumas Lassen Study 2005 Annual Report.* USDA Forest Service, Pacific Southwest Research Station, Sierra Nevada Research Center, 2121 Second Street, Suite A101, Davis, CA 95616.

U.S. Forest Service. Six Rivers National Forest. 2003. *Six Rivers National Forest Roads Analysis* Version 1.0 USFS, SRNF, Eureka, CA. 120 pp.

USFS, NMFS, USBLM, USFWS, USNPS, USEPA, 1993. *Forest Ecosystem Management: An Ecological, Economic, and Social Assessment*. USFS PNW Region, Portland, Or.

USFS and USBLM, 1997a. *The Assessment of Ecosystem Components in the Interior Columbia Basin and Portions of the Klamath and Great Basins*, Volumes I-IV. PNW-GTR-405, USFS, Walla Walla Washington.

USGS and USFS, 2008. Funk, Forseman, Mullins and Haig. *Genetics Show Current Decline and Pleistocene Expansion in Northern Spotted Owls*. Open-File Report 2008-1239.

Van Kirk, R. and S. Naman. 2008. *Relative effects of Climate and Water Use on Baseflow Trends in the Lower Klamath Basin.* Journal of American Water Resources Association. August 2008. V 44, No. 4, 1034-1052.

Weatherspoon, C.P. and C.N. Skinner. 1995. *An assessment of factors associated with damage to tree crowns from the 1987 wildfires in northern California.* Forest Science 41(3): 430-451.

White, Diane. 2001. *Guidelines for snags and down wood prescriptions in Southwestern Oregon*. Umpqua National Forest. USDA.

Wigington, P.J., J.L. Ebersole1, M.E. Colvin, S.G. Leibowitz, B. Miller, B. Hansen, H.R. Lavigne, D. White, J.P. Baker, M.R. Church, J.R. Brooks, M.A. Cairns, and J.E. Compton. 2006. *Coho salmon dependence on intermittent streams*. Front Ecol Environ 2006; 4(10): 513–518.

Yurok Tribe Environmental Program. 2009. *Comments on Public Review Draft of Staff Report for the Klamath River Total Maximum Daily Loads (TMDLs) and Action Plan.* Submitted by Ken Fetcho, YTEP, Klamath, CA. 37 pp.

KS Wild

Response to Comment KS Wild-1

The commenter states concerns regarding bias in the purpose and needs statement. See Theme Response 3 and Responses to Comments KS Wild-2 through KS Wild-10 below.

Response to Comment KS Wild-2

The commenter asserts that the Services failed to evaluate all reasonable alternatives. NEPA implementing regulation 40 CFG 1502.14(a) requires Federal agencies to rigorously 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. All alternatives suggested during scoping were considered. The Services determined which alternatives did not warrant detailed consideration, and provided an explanation as to why in Section 2.5 of the Final EIS.

Alternative A provides a reasonable conservation program that more closely resembles the Northwest Forest Plan, including wider no-harvest buffers along watercourses. Alternative B focuses on supporting dispersion of owls across the Plan Area. Both alternatives have different advantages and disadvantages relative to the Proposed Action (and the No Action Alternative), and help frame the range of potential impacts to the human environment. The Services believe these alternatives represent a reasonable range as required by NEPA. Reasonable alternatives must be technically and economically feasible. Economic feasibility must include the ability of an incidental take permit (ITP) applicant to carry out the conservation plan. If an alternative is not economically feasible for an applicant to implement, it is not considered a reasonable alternative.

Response to Comment KS Wild-3

The commenter states that potential land sales or transfers are an "escape clause" for the applicant. This provision simply recognizes that land exchanges are a normal part of forestland management, and are almost certain to occur within a 50-year timeframe. It is important to recognize this fact and address it in the HCP and related documents in order to maximize efficiency in implementing and servicing the HCP for 50 years. In order to help ensure that the conservation program remains intact, the Services are requiring a cap (10 percent) on the amount of land that can be moved in and out of the Plan Area and remain subject to the ITPs. This is discussed in Section 1.4.2 of the Final EIS, along with the rationale for acceptance under NEPA (e.g., any acquired lands are likely to be very similar to the current ownership). Also see Section 10.0 of the Implementing Agreement, which further states that the Services must determine that the transfer must not have a material impact on the applicant's ability to comply with the HCP (e.g., land within CSAs could only be sold if equivalent mitigation is provided).

Response to Comment KS Wild-4

The commenter states concerns with regard to the volume of timber extracted from the Plan Area, the Services recognize that there is an inconsistency in the Draft EIS with regard to the No Action Alternative. The Draft EIS text referenced by the commenter (p. 2-3) has been deleted. Timber harvest is expected to continue under all alternatives. However, the Services recognize that the applicant is seeking ITPs because of constraints on timber harvesting under the

California Forest Practice Rules (CFPRs), primarily due to spotted owl activity centers. The Final EIS acknowledges these constraints in the analysis of social and economic effects, recognizing the applicant's statements that it may not be able to maintain a financially sustainable business operation under the No Action Alternative. Also see Response to Comment KS Wild-23 below and Theme Response 1.

Response to Comment KS Wild-5

The commenter addresses the use of the term "required harvest volume" in the Draft EIS. The Services agree that the ESA and NEPA do not recognize such a "requirement," and agree that the term is confusing and perhaps inappropriate. The concept, however, is sound. The Services understand that the applicant must maintain a level of timber production and harvest to remain economically viable. It is not a matter of practice by the Services to perform what amounts to an audit of applicants' finances, nor are we in the position to judge the soundness of financial business plans. We are however cognizant that applicants must remain fiscally solvent throughout the duration of a proposed ITP in order for the goals and objectives of an HCP to be as successful as possible. However, this recognition does not mean that the applicant's economic preferences were the primary driver of alternatives development. Also see Responses to Comments KS Wild-4 and KS Wild-23, and Theme Response 1.

Response to Comment KS Wild-6

The commenter states concerns that the Services were working too closely with the applicant. It is a true statement that the Services worked closely with the applicant in developing the HCP. This was necessary to ensure that the HCP was acceptable to the Services in advance of public review and technically and economically feasible on behalf of the applicant. The working relationship in the development of the HCP was different from the NEPA process as NEPA is controlled by the Services as described in Theme Response 3.

Response to Comment KS Wild-7

The commenter states concerns that the alternatives were dictated by the applicant. In addition to meeting species conservation goals and objectives, the Services considered the applicant's objectives in considering the range of alternatives because an alternative should be feasible. If an alternative would cause the applicant to withdraw its application or not be able to meet all issuance criteria, then it would be infeasible. See Theme Response 3.

Response to Comment KS Wild-8

The commenter identifies and expresses concerns about an error on the initial cover page for the Draft EIS that the document was "prepared for Fruit Growers Supply Company. Not for the federal agencies. Not for the public." The reference to the applicant on the cover of the initial draft document was an error that has been corrected in the Draft EIS and in this Final EIS.

Response to Comment KS Wild-9

The commenter states that all three action alternatives rely on Forest Service lands for mitigation, yet the Forest Service was not involved whatsoever in preparation of the HCP, identification of mitigation measures, or in alternative development. The U.S. Fish and Wildlife Service (USFWS) conferred with the Klamath National Forest (KNF) to verify the validity of northern spotted owl activity centers from the California Department of Fish and Game (DFG)

database and habitat typing on Forest Service lands within northern spotted owl home ranges. For some mitigation sites, USFWS conferred with KNF to determine the likelihood and extent that adjacent Forest Service lands will be harvested within the 50-year Permit Term. The range of management practices permitted within Critical Habitat Units (CHUs) is very limited; therefore, any future harvest within CHUs should not have a significant adverse impact on the quality and function of the mitigation sites.

Response to Comment KS Wild-10

The commenter states that all of the three action alternatives rely exclusively on adjacent Forest Service habitat with the assumption that the habitat quality will remain static and without accounting for the removal of habitat via wildfire or post-fire logging. The Services note that the HCP's northern spotted owl conservation program is connected to the larger federal conservation strategy through the "Revised Recovery Plan for the Northern Spotted Owl" (USDI FWS 2011) and Northwest Forest Plan (USDA and USDI 1994), all of which rely on owl habitat protected within federal lands. The range of management practices permitted within CHUs is very limited; therefore, any future harvest within CHUs should not have a significant adverse impact on the quality and function of the mitigation sites. Major changes to the spotted owl conservation strategy on Forest Service lands would be an "unforeseen circumstance" and would likely require reinitiation of Section 7 consultation with the Services on the effects of such changes to listed species. An analysis of effects would consider the HCP's conservation strategy.

Even if CHUs, Late Successional Reserves (LSRs), and Forest Service Land Management Plans are no longer in effect, federal agencies cannot require private landowners to compensate for the future and unknown condition of federal lands, nor will agencies rely on private lands for northern spotted owl recovery. Please refer to Theme Response 7 and the information contained under the "Recovery" subheading in Theme Response 2 for more discussion on the recovery topic.

Large-scale wildfire is a stochastic event, and the HCP cannot plan for potential salvage logging operations on federal lands because the extent, severity, and timing of wildfire cannot be predicted. However, provisions for modifications to the HCP in the event of stand-replacing fires are specified in the "Changed Circumstances" section of Chapter 8. Post-fire logging within CHUs is discretionary, but must undergo Section 7 consultation with USFWS.

Response to Comment KS Wild-11

The commenter addresses the similarity between the Proposed Action and Alternative A with regard to the CSAs. The Services acknowledge this similarity, but note that the alternatives were developed using two different frameworks – the Proposed Action is based on providing demographic support based on adjacent critical habitat, and Alternative A is based in adjacent LSRs from the Northwest Forest Plan. The Services agree that they are similar because the CHU and LSR boundaries are almost identical in this region. The two alternatives have the same intellectual basis – using private timberlands to help support populations on adjacent federal lands. The Services support this approach, which is consistent with the northern spotted owl Recovery Plan. The Services also wish to point out that these two alternatives differ substantially on the aquatic conservation program, with wide no-harvest buffers under Alternative A. In addition, Alternative B presents a substantially different conservation strategy for northern spotted owls. Also see Response to Comment KS Wild-7.

Response to Comment KS Wild-12

The commenter states that they are unable to find an indication in the Draft EIS that "independent scientists" were involved in development of the mitigation and minimization measures contained in the three action alternatives. The Services would like to acknowledge the two respected biologists and statisticians who were chartered and paid as the Independent Science Panel to assist in the development of the HCP: Jeffrey Dunk, adjunct professor at Humboldt State University and research ecologist at USDA Forest Service, Redwood Sciences Laboratory; and Larry Irwin, Principal Research Scientist with the National Council of the Paper Industry for Air and Stream Improvement (NCASI). Mr. Dunk specifically assisted the USFWS with the development of mitigation and minimization measures for northern spotted owl by reviewing the proposed take list, evaluating the impact of the taking across the landscape, and developing the Impact Evaluation Matrix equation in order to assign relative conservation values to each activity center within the Area of Impact.

Response to Comment KS Wild-13

The commenter expresses concerns about impacts to aquatic species. The commenter discusses the road management program and the timing of this program in terms of implementation in the No Action Alternative versus implementation through the HCP. See Theme Response 9.

Response to Comment KS Wild-14

The commenter states concerns that there is no alternative conservation strategy for Yreka phlox other than the proposed action. The Services acknowledge the commenter's statement that there is no alternative conservation strategy for Yreka phlox other than the Proposed Action. The alternatives focus on areas where there could be substantial environmental differences, such as the wide riparian buffers under Alternative A and the landscape-wide owl dispersal habitat focus under Alternative B. It is not necessary to create different alternatives for all aspects of the Proposed Action, and the Services determined that the relatively minor landscape-level effects of the Yreka phlox conservation strategy, along with the fact that no take is being authorized, and that the applicant sold that portion of the ownership containing all known Yreka phlox populations, did not warrant a new alternative or additional variation of the existing alternatives with regards to this species.

The commenter is correct that timber harvest could occur within phlox EEZs as long as heavy equipment is not used within the EEZ (except on existing roads). This is the same as the No Action Alternative. The benefits of the Yreka phlox conservation strategy are primarily associated with the comprehensive survey and monitoring requirements which will allow for the gaining of a better understanding of the species life history and distribution patterns.

Response to Comment KS Wild-15

The commenter states concerns about alternatives that were not carried forward. The Services reiterate that these alternatives were not carried forward for detailed consideration for the reasons presented in Section 2.5 of the Final EIS. Also see additional responses in Response to Comment KS Wild-17 below regarding the individual alternatives mentioned in this comment.

Response to Comment KS Wild-16

The commenter states concerns regarding the rejection of a reduced permit term. Theme Response 6 and Draft EIS Section 2.5.2 address this concern.

The commenter also asks about the fate of the CSAs upon expiration of the 50-year ITPs. The Services acknowledge that the CSAs could be harvested after the permit expires. All timber harvest activities, however, would still be required to follow the rules and regulations in place at that time. The No Action Alternative assumes the continuation of the existing CFPRs and other regulations. It would be speculative to assume how regulations such as the CFPRs might change in the future. If there were no changes to the current CFPRs, existing occupied owl activity centers would be subject to the same harvest restrictions that apply under existing conditions. Additionally if warranted, the applicant and the Services could negotiate to extend the permit term consistent with Section 6.5 of the Implementing Agreement.

The commenter also expressed concern about the potential modifications in implementing the HCP, which is described on page 2-48 of the Final EIS as one of the reasons for rejecting a Reduced Permit Term alternative. The "mechanisms" referred to in the Draft EIS include the effectiveness monitoring and reporting requirements (see HCP Chapter 7) and the changed circumstances provisions (see HCP Section 8.2.1). There is a potential for flexibility even in the event of unforeseen circumstances, as described in HCP Section 8.2.2. The Services acknowledge that the applicant would be protected from substantial changes consistent with the "No Surprises" policy, but this is an essential part of the ESA Section 10 process (see Theme Response 6).

Response to Comment KS Wild-17

The commenter summarizes the alternative suggestions from the scoping phase of the project, and states that the Services should have carried these alternatives forward for detailed consideration. The commenter reminds the Services that their colleagues in the EPA requested that the EIS "look at alternatives that include different covered activities, species, land coverage and permit terms" and suggests that the Services failed to do so. The Services considered a wide range of alternatives, including many of those suggested during the scoping phase of the project. With regard to the commenter's statements about the EPA, note that EPA's comments on the Draft EIS did not identify a problem with the range of alternatives. The reasons for not carrying the suggested alternatives forward are described in Section 2.5 of the Final EIS. The following is a brief summary, with further responses.

- **No Surprises Policy.** The "No Surprises" rule is an essential part of the ESA Section 10 process (see Theme Response 6). An alternative that does not provide assurances would be contrary to agency policy.
- **Beaver Creek Watershed.** During scoping, commenters suggested specific actions in the Beaver Creek watershed, but did not suggest a specific alternative and no Beaver Creek-focused alternative was considered. The Proposed Action addresses aquatic habitat across the ownership, and designates Beaver Creek as "Class A" lands based on the potential presence of coho salmon. See Theme Response 9 regarding the potential benefits of the Proposed Action relative to the No Action Alternative.

- **Bond.** The Services considered requiring the applicant to post a bond, but elected to require a Letter of Credit as described in the Implementing Agreement (Section 7.0).
- **Adjacent Timber Harvest Plans (THPs) and Timber Sales.** The Services focused on CHUs for the Proposed Action (and LSRs for Alternative A) on adjacent federal lands in order to develop the northern spotted owl conservation program. The dynamic and proprietary nature of timber harvest on adjacent lands was not considered because it is speculative and would not add value to the analysis. See Theme Response 4 and Response to Comment KS Wild-10.
- **Recovery.** See Theme Responses 2, 7, and 9.
- **Different Covered Activities.** The Services are responding to applications for ITPs. It is up to the applicant to select the activities for which they are seeking coverage. The proposed Covered Activities represent the range of reasonable actions that could be expected to occur on private timberlands, and the Services do not think that adding or deleting other activities would be meaningful.
- **Different Covered Species.** The Services are responding to applications for ITPs. It is up to the applicant to select the species for which they are seeking coverage. This was done in coordination with the Services. Some additional species were considered, but not added as covered species for the reasons described in Final EIS Section 2.5.3.
- **Different Plan Area.** The applicant is requesting ITPs to address its entire Hilt area ownership where take of Covered Species could occur. An alternative with a smaller permit area could be accomplished by removing the Grass Lake management unit, located within the northern spotted owl California Cascades Province. This alternative was considered by the Services but was not carried forward for the reasons described in Final EIS Section 2.5.1.
- **Different Permit Term.** See Theme Response 6 and Final EIS Section 2.5.2.

The commenter also states that the agencies refused to develop an action alternative that would have provided coverage and protection measures for the Fisher, Siskiyou Mountains Salamander, Scott Bar Salamander, Southern Torrent Salamander, Tiger Salamander, Shasta Salamander and Cascades Frog. The Services considered an alternative to provide incidental take coverage for these seven additional species in addition to the Covered Species under the Proposed Action. The reasons for not carrying this alternative forward are described in Section 2.5.3 of the Final EIS. The following is a brief summary.

- **Fisher.** The Services are responding to applications for ITPs. It is up to the applicant to select the species for which they are seeking coverage. This was done in coordination with the Services. For fisher, the analysis of potential impacts has been strengthened – see Response to Comment KS Wild-65 below.
- **Amphibians.** The Services are responding to applications for ITPs. It is up to the applicant to select the species for which they are seeking coverage. This was done in coordination with the Services. The Services agree with the commenter that the statement on page 2-49 of the Draft EIS stating that the amphibian species suggested by the public to be included as Covered Species are not listed is false since the Siskiyou Mountains and Scott Bar salamanders are listed under the California Endangered Species Act (CESA), as

acknowledged on pages 3-85 and 4-51 of the Final EIS. The Services should have originally specified that none of the amphibian species are federally listed under the ESA. This statement has been corrected in the Final EIS.

Response to Comment KS Wild-18

The commenter states concerns about the potential impacts of herbicides, pesticides and fertilizers. The Services acknowledge that the Draft EIS does not address the impacts associated with herbicide, pesticide, and fertilizer use. The applicant is not seeking incidental take coverage for this activity and is not proposing to modify its current practices under any of the alternatives. An analysis of use of EPA registered chemicals and their effects on federally listed species is typically done via the section 7 consultation process between the Services and the EPA. Because herbicide, pesticide, and fertilizer use have a greater potential to adversely affect aquatic species, the NMFS Biological and Conference Opinion for the proposed action included an evaluation of forest chemical used by FGS as interrelated and interdependent to the proposed action even though the use of forest chemical is regulated by the EPA. In the analysis NMFS concludes that there is some potential for forest chemicals to enter salmonid habitats resulting in exposure to the chemicals used by FGS over the 50-year permit term. NMFS concluded that the risk to salmonids from chemical exposure is exceedingly low in any given year, given riparian buffers and consideration of a 50-year term of the ITP. However, NMFS acknowledged that isolated incidences of aerial drift and exposure may occur over the permit term and that individual salmonids could experience sub-lethal effects from this exposure (e.g., reduced growth).

For informational purposes, the Services asked the applicant to disclose the forest chemicals that it uses on lands within the Plan Area. The applicant indicated that it routinely uses eight different chemicals as pre- and post-emergent herbicides. The Services concluded that existing regulatory mechanisms are adequate for conservation of covered species to ensure that the applicant applies forest chemicals in accordance with EPA label instructions.

Response to Comment KS Wild-19

This comment summarizes many of the commenter's prior statements about Purpose and Need and range of alternatives. See Theme Response 3 and Response to Comment KS Wild-17.

Response to Comment KS Wild-20

The comment summarizes the commenter's concerns about the level of detail and analysis of potential impacts presented in the Draft EIS, as well as the role of CH2MHill. These concerns are addressed in Theme Responses 3 and 4, and in the responses to many of the other comments from KS Wild.

Response to Comment KS Wild-21

The commenter express concerns about the potential application of herbicides, pesticides and fertilizer and the potential impacts on human health, water quality, salmon, steelhead, amphibians, or special status species. See Response to Comment KS Wild-18.

Response to Comment KS Wild-22

The commenter refers to page 4-31 of the Draft EIS that states "activities such as [water] drafting from streams for dust abatement (potentially injuring or killing individuals suctioned up with the water and/or potentially damaging or destroying the incubating eggs of such species) have the potential to impact larger groups of individuals" and suggests that the Draft EIS fails to take a hard look at the direct, indirect, or cumulative impacts of water drafting activities. The commenter also asserts that no numbers or locations regarding this activity are provided and that no assessment of the effectiveness of mitigation measures is attempted. The commenter also provides several URL links regarding the water quality and quantity problems associated with water withdrawal in the Scott and Klamath watersheds as part of the Administrative Record for this Draft EIS process.

The Services acknowledges receipt of the URL links as part of the Administrative Record and notes that these links refer primarily to low flows in the Klamath River and its tributaries as a result of agricultural diversions, not to water drafting activities. As described in Theme Response 4, the Services assert that the level of detail is appropriate for the action at hand. Page 3-70 of the Draft EIS states that:

> "…surface water diversions and other human uses of surface waters are limited in the Plan Area. The applicant drafts water directly from stream channels for use in silvicultural operations or for fire suppression purposes. These diversions are temporary and limited in use, and the amount and timing of these withdrawals are unquantified. The applicant does not divert substantial quantities of water from streams in the Plan Area. Typically, the applicant conducts water drafting from Class II streams with flows greater than 2 cubic feet-per-second, or more commonly, from off-channel water holes."

This level of detail on water drafting locations is appropriate and that additional site-specific detail would not add value to the analysis. However, in response to this and other comments, maps showing the current road network and water drafting locations have been added to the Final EIS (see Figures 3.1-2 through 3.1-4). The conditions under which water drafting can occur and the conservation measures to avoid adverse effects on the Covered Species are detailed in Appendix B (pages B-33 to B-36) of the HCP.

Response to Comment KS Wild-23

The commenter expresses concerns that "The DEIS contains no discussion or analysis of the ability of FGS to follow through with the financial commitments necessary to implement the mitigation measures, surveys, and monitoring that allegedly mitigate the agencies' political decision to exempt the applicant from the requirements of the ESA." See Theme Response 1 regarding the assurances that the applicant will have the financial means to follow through on its commitments, as well as contingency plans if the applicant fails to meet its obligations. The financial condition of the applicant is a necessary consideration in an ITP process and is specifically addressed in the Implementing Agreement, but is not a topic for NEPA.

The Final EIS assumes that harvest under all alternatives would continue over time in accordance with existing rules and regulations as well as new harvest strategies described in the alternatives [see Theme Response 1 regarding CFPR requirements for sustainable timber production], and presents the differences among the alternatives in terms of size/canopy cover class changes or other measures of harvest efficiency. The analysis of social and economic

effects acknowledges statements from the applicant that it may not be able to maintain a financially sustainable business operation under the No Action Alternative. In such a case, direct and indirect employment and tax revenues from timber operations could "decline toward zero" if the applicant was to approach a condition where it is no longer solvent.

As acknowledged on page 4-56 of the Final EIS, it is possible that harvest levels would decrease across the ownership as forest conditions would no longer allow for sustainable harvest at current levels. Although the action alternatives project similar harvest levels, the changes in management practices and silviculture under the various action alternatives would lead to the development of forest conditions that would support the projected harvest levels on a sustainable basis (see Theme Response 1).

Response to Comment KS Wild-24

The commenter states that the analysis of social and economic effects should have been quantitative rather than qualitative. A quantitative analysis of social and economic effects was not possible because the Services are not requiring the applicant to disclose specific harvest volumes under each of the alternatives. Specific responses to each of the points raised in this comment are provided below. Also see Theme Response 4.

- **How much timber will be produced under the various alternatives?** The Services have not asked the applicant to disclose its discrete, private, and protected economic business models and plans for the reasons described in Theme Response 4.
- **How much will mitigation, monitoring, and survey requirements cost to implement?** Mitigation, monitoring, and survey requirements will vary from year to year and the cost of the conservation program would be paid by operating revenues. To ensure that financial commitments made by the applicant are regularly evaluated and adhered to, Section 7.0 (Funding) of the Implementing Agreement requires an annual evaluation of the applicant's ability to implement the Proposed Action (including mitigation, monitoring and survey requirements). In addition, Section 7.0 of the Implementing Agreement (and Section 8.3 of the HCP) requires a letter of credit as an additional form of assurance that adequate funding will be provided to implement the conservation program (see Theme Response 1).
- **What is the relative economic value of the current suitable habitat to be logged versus the hypothetical suitable habitat to be grown sometime in the future?** This information is presented in the Final EIS in terms of habitat value (see analysis in Final EIS Section 4.3.1). It is not presented in terms of economic value for the reasons discussed above.
- **How much will the proposed road maintenance activities cost?** Road maintenance activities will vary from year to year and the cost of these activities would be paid by operating revenues. To ensure that financial commitments made by the applicant are regularly evaluated and adhered to, Section 7.0 (Funding) of the Implementing Agreement requires an annual evaluation of the applicant's ability to implement the Proposed Action (including road maintenance activities). In addition, Section 7.0 of the Implementing Agreement (and Section 8.3 of the HCP) requires a letter of credit as an additional form of assurance that adequate funding will be provided to implement the conservation program (see Theme Response 1).

- **How will that expense be funded?** Road maintenance costs will be funded by timber operations. See Theme Response 1.
- **Is FGS economically viable over a 50-year time frame?** See Theme Response 1 and Response to Comment KS Wild-25 below.
- **What are the socioeconomic values (including dollar values) associated with the continued survival of coho, Chinook, or steelhead to fishermen and local Native American Tribes?** See Theme Response 9 regarding the potential benefits of the Proposed Action relative to the No Action Alternative. Because the Services only recognize minor changes in fish habitat conditions under the Proposed Action and very minor and speculative changes in fish population numbers, we found no benefit in trying to extrapolate these changes to quantify "socioeconomic values." Also note that the Services received no comments on the Draft HCP/Draft EIS from Native American Tribes or commercial fishing interests.

Response to Comment KS Wild-25

The commenter states that the Draft EIS does not disclose timber harvest levels (e.g., millions of board-feet), and instead addresses the applicant's "financial targets." The Services have not asked the applicant to disclose its discrete, private, and protected economic business models and plans (see Theme Response 4). The Draft EIS used the term "financial targets" to represent the fact that the applicant is a revenue-generating business that relies on market conditions and other factors to determine if, when, where, and how much timber to harvest. In order to assess environmental consequences over 50 years, the Services acknowledge that the applicant must act as a financially sustainable business operation (see Theme Response 1).

Response to Comment KS Wild-26

The commenter states that Section 8.6 of the Implementing Agreement would prohibit the public from using the Freedom of Information Act (FOIA) to monitor how, when, where, and if HCP measures are funded. This is not true – annual HCP implementation cost information will not be proprietary. Section 8.6 of the Implementing Agreement is intended to protect proprietary trade secret, commercial, and financial information, consistent with FOIA.

Response to Comment KS Wild-27

The commenter is correct in that the Draft EIS does not describe how unforeseen circumstances, changed conditions, and adaptive management would be addressed. Changed and unforeseen circumstances are identified, described, and addressed in Chapter 8 (Plan Implementation) of the HCP. The description of the Proposed Action includes this text:

> *Information regarding the applicant's proposed conservation program is summarized in this section. Detailed information is provided in the HCP and in the IA. This EIS analyzes the entirety of this application – the HCP is incorporated by reference into the EIS to ensure that the project description is complete while maintaining the conciseness and readability of the document.*

Given the extent of comments about HCP implementation, however, the Services have added additional text to Chapter 2 (Proposed Action and Alternatives), as a new section (Section 2.2.5) in this Final EIS. This new text summarizes information presented in HCP Chapter 7

(Monitoring and Reporting) and Chapter 8 (Plan Implementation). Note that these implementation actions would not occur under the No Action Alternative, and it is the Services' opinion that the provisions would be a beneficial outcome of issuing the ITPs.

Response to Comment KS Wild-28

The commenter expresses concerns about the statement "that Fisher will benefit from increased NSO suitable habitat over time". See Responses to Comments KS Wild-64 through KS Wild-67.

Response to Comment KS Wild-29

The commenter notes that salvage logging can occur within CSAs under the HCP and states that the Draft EIS does not address the controversy and impacts of post-disturbance salvage logging on northern spotted owl and their prey base. The Services recognize the ecological benefits to northern spotted owl provided by legacy structures, and as described on page 5-5 of the HCP, included the provision that salvage logging will not be allowed in WLPZs or in designated suitable habitat within the CSAs except where human safety is a factor, or in instances where snags have the potential to promote wildfires. Any salvage operations within CSAs will require pre-approval by USFWS. The USFWS must determine that the salvage operations are necessary to prevent and/or control the spread of forest disease, insect outbreaks, or catastrophic wildfire before approving such operations in CSAs. Any salvage logging authorized by USFWS must not adversely affect the CSA and should result in improvements to owl habitat. The impacts to northern spotted owl due to salvage logging cannot be analyzed or meaningfully evaluated at this time because 1) wildfire events in CSAs are unpredictable and 2) USFWS may not approve the proposed salvage operations.

These provisions for salvage logging in the CSAs under the Proposed Action are more restrictive than the regulations in the CFPRs (Title 14, California Code of Regulations) governing current and future salvage operations under the No Action Alternative. However, as stated on page 2-17of the Final EIS, the amount of salvage conducted under the Proposed Action is not expected to differ substantially from salvage under the No Action Alternative.

Response to Comment KS Wild-30

The commenter states that the Draft EIS contains no discussion or disclosure of the applicant's requirements under the Scott River Total Maximum Daily Loads (TMDLs). Currently, the applicant has not been assigned any waste load allocations specific to their operations by the North Coast Regional Water Quality Control Board (RWQCB). It is the Services' understanding that the Regional Board enforces its TMDL requirements (including regional waste load allocations) through the THP review process (on a THP by THP basis). Also see Theme Response 8.

Response to Comment KS Wild-31

The commenter refers to the reference of the Yreka Phlox Recovery Plan on page 3-45 of the Draft EIS, and states that neither the substance of the Recovery Plan nor the applicant's responsibilities under the plan are disclosed or analyzed in the Draft EIS. Describing the substance of the Recovery Plan is outside the scope of this document and is not required. Nonetheless, the goal of the Recovery Plan is stated and the actions to reach the objectives of the Recovery Plan have been added to the Final EIS. The applicant is a member of the Recovery Plan recovery team and is participating in the Recovery Plan. The actions the company will take

for avoidance of adverse effects to and monitoring of the Yreka phlox are described under the Terrestrial Species Conservation Plan in Chapter 5.3.2.1 and 5.3.2.2 of the HCP. These actions are consistent and compatible with the Recovery Plan for the Yreka Phlox.

Response to Comment KS Wild-32

The commenter states that the Draft EIS does not analyze or disclose aquatic habitat conditions, and instead "punts" to the HCP. The Draft EIS summarizes aquatic habitat conditions from p. 3-50 to 3-62, including text, tables, and maps. This is based on information presented in HCP Chapter 4 (Environmental Baseline). Incorporation by reference is typically used when preparing a NEPA analysis for an HCP. They are companion documents. The Services agree that it is appropriate to summarize key details in the NEPA document and refer to the HCP. Duplicating information between companion documents would be wasteful and inefficient.

Note also that it is not the intent of this referenced section to analyze effects. The comment is on Chapter 3 (Affected Environment), and effects are analyzed in Chapter 4 (Environmental Consequences).

Response to Comment KS Wild-33

The commenter states concerns with regard to the lack of information on potential impacts on species and their habitat presented in the Draft EIS, whether the level of detail is sufficient to make a reasoned choice among alternatives, and whether the Draft EIS is not missing "important," "significant," or "essential" information. See Theme Response 4. Note also that the Services gathered additional information to help respond to this and several related comments on the Draft EIS. For example, see Responses to Comments 64 – 67 regarding fisher.

Response to Comment KS Wild-34

The applicant states concerns with regard to barriers to fish passage on several fish-bearing streams on FGS property. Refer to Response to Comment KS Wild-54.

Response to Comment KS Wild-35

The commenter states that the Draft EIS relies on assumptions and guesswork rather than surveys and hard data to summarily dismiss impacts of the HCP on special-status species and their habitat. The commenter lists the species for which no surveys were conducted: great gray owl, long-legged and long-eared myotis, southern torrent salamander, northern red-legged frog, foothill yellow-legged frog, Pacific lamprey, and Gentner's fritillary. Theme Response 4 describes why the level of detail in the Draft EIS regarding species specific data is appropriate. The Services are reviewing the action at the landscape level rather than at the site-specific level. Nonetheless, additional data collection effort has been made for the species listed and has been added to the Final EIS text. See detailed responses below for each individual species.

Response to Comment KS Wild-36

The commenter refers to page 3-31 of the HCP where it is stated that the applicant:

> "… chooses not to include the Siskiyou Mountains salamander as a Covered Species because it is not federally listed, and because little is known about the species' presence and use of the FGS ownership, such that effects of the Covered Activities cannot be evaluated, nor a meaningful conservation program developed for this species."

The commenter then asks if the agencies contend that the Draft EIS discloses and analyzes the cumulative and direct impacts of the Covered Activities on these species, and that the survey and manage program of the Northwest Forest Plan (which includes buffers for these species) is not a "meaningful conservation program?" The commenter also requests that Siskiyou Mountains salamander and Scott Bar salamander pre-disturbance surveys be required in order to determine the "effects of Covered Activities," similar to the Northwest Forest Plan's protocol.

Notwithstanding the text in the HCP, the Final EIS discloses and analyzes the cumulative and direct effects of the alternatives on Siskiyou Mountains and Scott Bar salamanders. As described in Theme Response 4, the Services have analyzed effects at a level of detail appropriate for taking action on ITP applications for a large tract (approximately 154,000 acres) of commercial timberlands. This does not obviate the need for THP-by-THP consideration of impacts to these species as required by the CFPRs.

As described in Sections 4.3.3.13 and 4.3.3.14 of the Final EIS, the CFPRs do not contain specific measures for the protection of these species; however, these species are listed as threatened in the State of California and, as such, are protected under CESA. During the THP review process, which includes DFG participation, potential impacts to these species that could result from site-specific timber operations would be addressed and appropriate measures implemented to minimize potential adverse effects. The applicant has three options when proposing activities in potential habitat for these species: 1) conduct pre-project surveys to determine presence/absence; 2) assume presence and adhere to a set of DFG established avoidance measures; or 3) submit an ITP application pursuant to Fish and Game Code §2081(b) 14 CCR. Under option 1, surveys must be performed by qualified personnel who have a scientific collecting permit from the DFG permitting the handling of these species and utilizing the protocol described in "Survey Protocols for Amphibians under the Survey & Manage Provision of the Northwest Forest Plan, Version 3.0, October 1999."

Response to Comment KS Wild-37

The commenter states concerns about the potential impacts of Covered Activities on Pacific Fisher. See Responses to Comments KS Wild-64 through KS Wild-67.

Response to Comment KS Wild-38

The applicant expresses concerns about proposed timber harvesting practices. It is correct that there are no provisions in the HCP or Implementing Agreement requiring the applicant to decrease clearcutting practices under the HCP. However, as described in Theme Response 1, timber harvest under the HCP would continue to be regulated by the CFPRs. As required by the CFPRs, the applicant would not be allowed to harvest at a rate that exceeds growth at the ownership scale, and would be required to demonstrate proof of sustainable production with an updated "Option A" sustained yield analysis to be filed with the California Department of Fire and Forestry Protection (CALFIRE) with issuance of the ITPs.

Based on the applicant's current sustained yield analysis, changes in management practices and silviculture, including a reduction in the amount of even-aged regeneration harvest (e.g., clearcutting), would result in sustainable harvest levels over the permit term. The Proposed Action is expected to result in an increase in California Wildlife Habitat Relationships (CWHR) habitat categories 4M and 4D over time and a decrease in clearcutting and other even-aged

management practices, both of which will benefit northern spotted owl. The Draft EIS states on page 2-18 that,

> "Issuance of the ITPs would allow the applicant to harvest more of the currently suitable northern spotted owl habitat on its ownership. The applicant has indicated that this would reduce the amount of even-aged regeneration harvest (clearcutting) necessary to meet financial targets. A reduction in clearcutting of moderate-complexity stands (based on California Wildlife Habitat Relationships [CWHR] Class) would allow these and other stands to grow into suitable northern spotted owl habitat over the duration of the permits. Under the Proposed Action, it is anticipated that there would be about a 10 percent decrease in acres harvested each decade, including as much as a 25 percent decrease in even-aged regeneration harvest compared to the No Action Alternative."

The USFWS analyzed potential effects of the Proposed Action on spotted owls within the Plan Area in the Biological Opinion with the understanding that there will be a decrease in clearcutting and other even-aged management practices, as described above. The USFWS will be able to monitor whether there is a decline in even-aged regeneration harvest over time by reviewing submitted THPs that will be subject to the HCP conservation measures. If this underlying assumption proves to be incorrect, internal agency consultation under Section 7 of the ESA could be reinitiated, which may require suspension of the ITPs during this process (see section 6.2 "Permit suspension or revocation" of the Implementing Agreement).

Information regarding the applicant's finances is not disclosed because it is proprietary information. However, please refer to Theme Response 1 for additional information about the applicant's sustained yield analysis and financial commitments under the HCP.

Response to Comment KS Wild-39

The commenter asks what prevents the applicant from receiving ITPs while also increasing the amount of clearcutting and aggressively salvage logging after natural disturbance events. The commenter also asks why the sustainability of the applicant's harvest plans under all action alternatives has not been fully analyzed and disclosed. The Response to Comment KS Wild-38 and Theme Response 1 explain how the applicant's timber harvest activities under the HCP would be regulated, and the applicant's requirement to demonstrate sustainable management practices with an updated "Option A" sustained yield analysis. These responses also describe how the Proposed Action is expected to result in a decrease in clearcutting and other even-aged management practices, and agency actions that would be taken if this underlying assumption proves to be incorrect.

The Response to Comment KS Wild-29 describes the restrictions on salvage logging under the Proposed Action.

Response to Comment KS Wild-40

The commenter states that the Draft EIS does not fully analyze or disclose the impact, timing, and effect of authorizing "take" at 44 northern spotted owl activity centers. The Final EIS meets NEPA requirements to describe the environmental consequences of the action alternatives. It is not necessary to specify "take" in the Final EIS. An analysis of the proposed takings is described in the HCP (see Section 9.2) and in the USFWS Biological Opinion (USFWS 2012) written regarding the proposed issuance of ITPs. Additionally, Theme Response 7 and the Impact of the

Taking and Maximum Extent Practicable subheadings in Theme Response 2 address the potential impacts and effects of the proposed take of northern spotted owl activity centers under the Proposed Action.

Response to Comment KS Wild-41

The commenter states that in regard to goshawk populations, the "DEIS fails to quantify the effects of such habitat reduction on this, or any other species". Theme Response 4 describes how the level of detail in the Draft EIS regarding species specific data is appropriate. The Services are reviewing the action at the landscape level rather than at the site-specific level. Nonetheless, additional data collection efforts for goshawk occurrences have been made and results have been added to the Final EIS text in Section 3.3.4.4. Section 4.3.3.4 of the Final EIS states that regardless of the alternative, the applicant would continue to operate in accordance with the CFPRs and other state regulations for the northern goshawk. Under the CFPRs, the northern goshawk is considered a "sensitive species" and protective measures to avoid disturbance of nesting goshawks would be implemented under each of the alternatives. The CFPRs also include provisions for review of THPs by CALFIRE such that if additional protective measures are needed, a mechanism exists for their incorporation on a site-specific basis.

Response to Comment KS Wild-42

The commenter states that the Draft EIS does not analyze or disclose the impacts of the timing and amount of harvest of suitable habitat on fisher. See Responses to Comments KS Wild-64 through KS Wild-67.

Response to Comment KS Wild-43

The commenter questions the statement made in the Draft EIS (page 4-26) that "general forest management" aids northern spotted owl populations and reduces fire hazard. The Services agree this text can be misinterpreted by the general reader and this text has been deleted. New text has been added to the Final EIS in this section that discusses the benefit of designating CSAs on FGS's ownership to support high conservation value activity centers to maintain connectivity with nesting/roosting habitat, and provide foraging opportunities for owls.

Response to Comment KS Wild-44

The commenter states that numerous recent studies have explicitly pointed out that the CFPRs have failed to protect Pacific salmon species because timber harvests are looked at individually and not in conjunction with all activities in a watershed. The Services acknowledge that the CFPRs have failed to protect salmonids in the past. However, the Proposed Action provides landscape level planning, road treatment, and monitoring to address cumulative effect issues within the Plan Area while considering economic realities of the applicant. In addition, the applicant does not own a large fraction of the land area in many of the planning watersheds and, overall, owns 16 percent of the land area in planning watersheds containing their Klamath River management unit, 13 percent in their Scott Valley management unit, and 6 percent in their Grass Lake management unit (Table 4-3 of the HCP). When comparing the aquatic conservation strategy under the Proposed Action with the No Action Alternative (which is continued timber harvest within the Plan Area under the CFPRs) the Services have concluded that the Proposed Action would provide for greater conservation of salmonids and the habitat they depend upon (See Theme Response 9).

Response to Comment KS Wild-45

The commenter states that change scene detection from Landsat images in the Pat Ford Creek watershed, where the applicant has major holdings, was more than 15 percent logged between 1994 and 1998 and extensive timber harvest in riparian zones of French Creek is evident, both of which imply adverse activities with regard to salmonid conservation (see also Comment KS Wild-44). While the Services acknowledge that Pat Ford and French Creek were logged under the CFPRs – which may not have protected riparian areas or treated sediment sources adequately – it is anticipated that clearcuts are expected to decrease under the Proposed Action. Current CFPR restrictions on clearcutting (e.g., size and adjacency limitations) will also limit the amount of clearcutting in the future. The Response to Comment KS Wild-38 and Theme Response 1 explain how the applicant's timber harvest activities under the HCP would be regulated, and the applicant's requirement to demonstrate sustainable management practices with an updated "Option A" sustained yield analysis. These responses also describe how the Proposed Action is expected to result in a decrease in clearcutting and other even-aged management practices, and actions that would be taken if this underlying assumption proves to be false.

When comparing the aquatic conservation strategy under the Proposed Action with the No Action Alternative (which is continued timber harvest within the Plan Area under the CFPRs) the Services have concluded that the Proposed Action would provide for greater conservation of salmonids and the habitat they depend upon (See Theme Response 9).

Response to Comment KS Wild-46

The commenter correctly points out the potential for damaging peak flows due to rain-on-snow events and the relationship to clear cuts and high road densities at susceptible elevations. The commenter states that the Draft EIS did not address the impacts of the rain-on-snow events at higher elevations (with roads) on peak-flows, particularly in light of rising snow levels resulting from climate change.

The Services acknowledge that much of the applicant's ownership with areas of high road density are at high elevations that may be subject to rain-on-snow events now and in the future. However, little new road building is anticipated under the Proposed Action (less than 1 mile per year for the entire ownership) and many existing roads will be decommissioned as a result of the road inventory and treatment process outlined in the HCP. Implementation of the Proposed Action is also anticipated to reduce the percentage of the existing road network that is hydrologically connected to Plan Area streams. It is anticipated that approximately 10 to 20 percent of hydrologically connected roads over which the applicant has jurisdiction will be disconnected within the first five years (see Final EIS section 4.2.1.2).

With respect to climate change and potential effects on snow levels and the potential for rain-on-snow events to affect aquatic habitats and salmonid recovery, the Services acknowledge that some species could be influenced (positively or negatively) by changes in habitat, but specific outcomes of climate change with regard to species in the plan area remain speculative at this time. Climate change is addressed in the EIS in terms of the effects of the action on greenhouse gas emissions, and new text has been added to the Final EIS in Section 5 (Cumulative Effects). The Center for Biological Diversity offered extensive comments on the Draft EIS climate change analysis, and the Services have responded to these comments individually in Appendix F (see

also Theme Response 5). Future changes in flooding (from higher rain-on-snow flood frequencies) will be addressed through "changed circumstances" outlined in the HCP and corresponding Implementation Agreement.

Response to Comment KS Wild-47

The commenter states concerns about pesticides and herbicides and the potential impact on salmonids. See Response to Comment KS Wild-18.

Response to Comment KS Wild-48

The commenter discusses FGS past forest management practices and raises some concerns about past activities. A review of the applicant's THP records with CDF demonstrated that out of approximately 70 THPs submitted by the applicant in the past ten years, the applicant received 12 violations that were either correctable actions that were rectified or were actions that did not result in environmental damage, and therefore no enforcement actions needed to be taken. In comparison to other timber companies, the applicant has received about the same or fewer violations. In phone conversations with the KNF, the Services found that the applicant has had no timber sales and no trespasses (onto Forest Service Lands) with the Forest Service in at least ten years.

Response to Comment KS Wild-49

The commenter raises several points regarding the level of detail presented under the No Action Alternative. As a reminder, impacts of the No Action Alternative are the impacts of timber harvesting under a "business as usual" approach consistent with the CFPRs, and is a baseline to assessing impacts associated with the action alternatives. The Services acknowledge that there would be adverse effects to the environment under the No Action Alternative – timber harvesting creates a disturbance that has adverse consequences to fish, wildlife, and other resources of concern. Individual points are addressed in the bullets below. Also see Theme Response 4.

- The specific effects of ground-based yarding on soil compaction and sediment production were not specifically addressed in the Draft EIS. Sediment production was addressed from an ownership-wide perspective, focusing on the differences between alternatives. Specific timber harvest techniques would remain at the applicant's discretion under all alternatives (unless specifically limited by the conservation strategy), and would be determined at the THP stage under all alternatives.

- Cumulative and site-specific impacts of road densities and culverts are generally addressed in the Final EIS by discussing the road network and density (see Section 3.1.2), and using that information to determine how past environmental effects (e.g., sediment generation) would continue to occur under each of the alternatives. Again, the focus is on comparing how impacts could change under the various alternatives, based on available information.

- Impacts of timber operations on fire hazards and fire suppression are addressed in Response to Comment KS Wild-51.

- For a discussion of the Draft EIS approach to herbicide and fertilizer effects, see Response to Comment KS Wild-18.

- Impacts of harvest practices on mass wasting hazards are addressed in the same manner discussed above for roads.
- Water drafting is addressed in Response to Comment KS Wild-22.
- The sustainability and economic effects of harvest levels are addressed in Theme Response 1 and Responses to Comments KS Wild-4, KS Wild-5, and KS Wild-25.

Response to Comment KS Wild-50

The commenter states that the Draft EIS does not consider the cumulative impacts of the action combined with other past, present, and foreseeable future projects. The Services disagree. For this action (changes in forest management practices on a 152,178-acre plan area), the Services determined that the most appropriate approach to the analysis of cumulative effects was to generally describe the actions that could contribute to cumulative effects within the general vicinity. This is provided in Section 5.1 (Actions Included in the Cumulative Impacts Analysis), which is a 10-page description of past, present, and foreseeable actions associated with timber operations, road maintenance and management, agriculture, land development, mining, dams and diversions, and fishing.

The logic provided in Theme Response 4 also applies to the analysis of cumulative effects, and the level of detail in the cumulative effects analysis is appropriate for the action at hand.

The commenter is concerned that that the cumulative effects analysis contained in the Draft EIS relies on the 2008 CHU designation, which the USFWS has requested to vacate. However, on September 1, 2010, Judge Sullivan in the D.C. District Court ruled in the 2008 Northern Spotted Owl case in which the Carpenter's Industrial Council, et al. sued the USFWS on the merits of the 2008 Northern Spotted Owl Recovery Plan and the 2008 Northern Spotted Owl Critical Habitat rule. The order remanding the 2008 critical habitat designation was withheld pending resolution of the timetable for the proposed rulemaking. The USFWS's request to vacate the 2008 critical habitat designation was denied and will therefore remain in force during the rulemaking period. Employees of the USFWS have been directed to use the 2008 critical habitat designation in the meantime and not revert to the 1992 critical habitat designation.

Regardless, the statement regarding the approximately 25 percent reduction of northern spotted owl critical habitat across the species' range isn't applicable because the 1992 and 2008 critical habitat designations are almost identical in the Plan Area vicinity.

Response to Comment KS Wild-51

The commenter expresses concern that the applicant will convert existing suitable northern spotted owl habitat into plantations under the Proposed Action, which may increase fire hazard in the planning area. The Services do not dispute the references provided by the commenter that indicate tree plantations are more susceptible to intense fire behavior and severe fire effects than unlogged mature forests (DellaSala et al. 1995, Odion et al. 2004). However, this comment is not relevant because the applicant does not plan to convert all of the currently protected suitable northern spotted owl habitat on their ownership into plantations with the issuance of the ITPs. As described in the Response to Comment KS Wild-38 and Theme Response 1, this level of even-aged management (conversion of vast areas to "plantation-like" stands) would not be sustainable and likely not approved by CALFIRE. The CFPR regulations would apply under all the alternatives, including restrictions on the size and adjacency of clearcuts. Additionally,

by gaining access to habitat at take sites under the Proposed Action, the applicant would decrease the intensity of harvest practices throughout its land base, resulting in a decrease in clearcutting and other even-aged management practices, as explained in the Response to Comment KS Wild-38.

Another consideration is that active forest management via commercial timber operations can help control the outbreak of catastrophic wildfires using techniques such as fuels reduction and maintenance of firebreaks, especially in areas that have been heavily managed historically. The applicant has a vested interest in protecting their forest inventory from large-scale wildfires, and will continue to use best management practices to reduce fire risk.

Provisions for modifications to the HCP in the event of a stand-replacing fire are specified in the "Changed Circumstances" section of Chapter 8 of the HCP .

Response to Comment KS Wild-52

The commenter provides many background citations about the adverse effects of roads in a forested landscape and suggests that road management impacts on aquatic and terrestrial habitat were not adequately analyzed in the Draft EIS. The Services acknowledge that forest roads can have a wide variety of effects on the forested landscape. Sedimentation has been identified as one of the primary issues affecting salmonids in the Plan Area. Under the Proposed Action, road inventories within drainages that support anadromous salmonids would be completed within 15 years and many of the potential high and moderate sediment delivery sites would be treated, leading to a 50 percent reduction in sediment delivery from these sites within this same period (Final EIS section 4.1.2). The Services acknowledge throughout the Draft EIS (including those instances identified in the comment) that roads adversely affect aquatic ecosystems and find the level of detail to be appropriate for analysis of the action at hand as much of the impact to salmonid habitat from sediment generation in forested terrains occurred prior to the implementation of standard forest practice rules in California. The Services acknowledge that roads are a continuing source of sediment to salmonid streams. We expect implementation of the HCP will help to minimize as much as possible the impact from the existing road network within the Plan Area.

The USFWS also acknowledges that forest roads can have a wide variety of effects on the forested landscape that may adversely affect terrestrial species. As described in Section 4.1 of the Draft EIS, new road construction is anticipated to average less than 1 mile per year. At the same time, the applicant anticipates decommissioning many of their seasonal roads such that there will be a gradual reduction in active road mileage over the Permit Term under all of the alternatives. Additional Road Management discussion is located in Section 6.1.3.1 Potential Impacts Due to Altered Hydrology and in Section 6.1.3.5 Potential Impacts Due to Changes in Sediment Inputs in the HCP. The small amount of road to be constructed is anticipated to have minimal impact to terrestrial species and habitat. It is anticipated that the effects of disturbance to wildlife from vehicles traveling on roads will be reduced over time as roads are decommissioned and removed from the Plan Area road network. Likewise, impacts of roads on edge effects and microclimatic changes are expected to be reduced over time. Due to the small amount of road mileage that could potentially be added to the entire Plan Area road system (road construction vs. decommissioning), the Services are not recommending that more detail on the effects of roads in a forested landscape be added to the EIS, as we do not believe it would

add substantive value to the analysis. Please see Theme Response 4 for additional information on the level of detail of analysis required by the agencies under NEPA.

Response to Comment KS Wild-53

The commenter states that no attempt was made to quantify the impacts of roads on sediment loading or to identify individual road segments that may be contributing to hydrological degradation of water bodies. The Services acknowledge that the analysis of impacts of roads on sediment loading is not quantitative. However, quantitative information on sediment loading from roads (and other sources) is not available for the Plan Area, nor is a quantitative analysis required for issuance of an ITP. Additional site-specific detail would not add substantive value to the analysis (see Theme Response 4). In addition, this quantitative information will be developed through the road inventory process and improvements will be quantified through the effectiveness monitoring program. Also see Responses to Comments EPA-4, EPA-7, and EPA-10.

Response to Comment KS Wild-54

The commenter states that page 3-62 of the Draft EIS indicates that 14 of the 56 road crossings of fish-bearing streams identified by FGS on their lands are of "unknown status." The Services acknowledge that the status of some crossings was unknown at the time the Draft EIS was written. In the interim, the applicant has completed a crossings inventory to determine the status of all crossings on their ownership. The text on crossings on page 3-69 has been updated and now states that:

> "A crossings inventory conducted by the applicant reports a total of 49 crossings of fish-bearing streams in the Plan Area; 40 crossings are within the range accessible by anadromous fish. Of the crossings within the range of anadromy, 16 are bridges; there are 13 culverts, nine fords, and two crossings have been decommissioned… Further evaluation by the applicant has determined that there are five crossings that form partial barriers and four that form temporal barriers to movement of anadromous salmonids on their ownership; none are considered total barriers."

Table 3.3-14 has also been updated.

Response to Comment KS Wild-55

The commenter refers to page 4-4 of the Draft EIS that states "road-related erosion is known to be a substantial contributor to the sediment budget in most managed watersheds," and asserts that no substantive or quantitative data is provided as to which roads are contributing how much sediment to which watersheds. The Services acknowledge that sediment budgets for affected watersheds have not been developed. However, quantitative information on which to develop a sediment budget is not available for the Plan Area. There is no need to develop sediment budgets as the Services are satisfied that the prioritization process for road inventories will target coho watersheds with the highest priority. In addition, this quantitative information will be developed through the road inventory process and improvements will be quantified through the effectiveness monitoring program. The HCP road-related sediment reduction strategy is based on conservation needs of listed coho, the most imperiled of the three salmonids included in the HCP.

Response to Comment KS Wild-56

The commenter asserts there is a failure to analyze and disclose the location, status and impacts of road-related fish passage barriers in the Draft EIS. The commenter provides information from Six Rivers National Forest on the risks of culvert diversion, how culvert density reflects the extent to which roads have modified the channel network, and the potential risk associated with culvert failures. The Services acknowledge the risks associated with culvert diversion and failure and note that under the Proposed Action, road inventories and treatment of sites exhibiting sediment delivery (including stream crossings and culverts) would be conducted in a systematic and prioritized manner. Other measures to avoid impacts associated with culvert diversions and failures (e.g., upgrading culvert size and construction of critical dips) are included in the Road Maintenance Plan – Operations Guide (Appendix B of the HCP).

The location and status of road-related fish passage barriers have been updated following the applicant's completion of a fish passage assessment on their ownership (see Response to Comment KS Wild-54). There are currently five crossings that form partial barriers and four that form temporal barriers; none are considered total barriers. During the road inventory process under the Proposed Action, culverts that are documented as impeding fish passage would be prioritized for replacement with a fish-passable solution. Under the Proposed Action, impacts caused by the blockage of fish passage would be avoided or minimized by proper culvert installation at all stream crossings or replacement with fish-friendly structures. As such, fish passage problems at watercourse crossings would be eliminated over time, most within the first 15 to 20 years following issuance of the ITPs.

Response to Comment KS Wild-57

This comment reiterates several points regarding financial assurances and economic analysis (raised in other comments) that have been addressed in several other responses. See Theme Response 1 and Responses to Comments KS Wild-5, KS Wild-23, and KS Wild-25.

Response to Comment KS Wild-58

The commenter states that the Draft EIS is silent on the topic of unforeseen circumstances. Additional text has been added to the Final EIS to describe plan implementation, including unforeseen circumstances (see new Section 2.2.5).

The discussion of unforeseen circumstances (HCP Section 8.2.2) complies with the requirements of 50 CFR 17.22(b)(1)(iii)(B) and the Section 10 implementing regulations. This is consistent with the "no surprises" policy (see Theme Response 4).

Response to Comment KS Wild-59

The commenter states that throughout the Draft EIS and HCP the agencies downplay the recovery standard while referencing the jeopardy standard. Please refer to Theme Response 7 and the information contained under the "Recovery" subheading in Theme Response 2 for a discussion on the recovery topic.

Response to Comment KS Wild-60

The commenter addresses several topics in this comment regarding the level and impact of the proposed take of northern spotted owl and the validity of the algorithm to assess the

conservation value of each activity center in the planning area. The Services would first like to clarify that the number of valid activity centers within the Area of Impact was estimated to be 82 activity centers representing 158 individual owls. Under the Proposed Action, the applicant is requesting incidental take at 43 activity centers representing 83 individual owls, not over 50 activity centers as stated by the commenter. The proposed level of incidental take represents 52 percent of the local population, not two-thirds. The estimated level of incidental take also represents the maximum that could occur and is not likely to be this high because it assumes that each of the activity centers currently supports northern spotted owls at their highest historical reproductive status. However, it is likely that many sites are abandoned or occupied by a single owl.

The USFWS and the applicant collaboratively developed the Impact Evaluation Matrix (IEM) to assess the conservation value of each activity center within the Area of Impact because, although many activity centers are not likely to be currently occupied, it was not appropriate to discount these sites because many haven't been adequately surveyed to make a non-occupancy determination. While "take" is quantified at the individual owl level, the IEM allows for a more accurate assessment of impacts of the taking on the local and regional populations. The IEM also allows for assessment of the contribution of each activity center to the conservation and recovery of the species. The IEM was reviewed and modified by Jeffrey Dunk, adjunct professor at Humboldt State University and research ecologist at USDA Forest Service, Redwood Sciences Laboratory.

The relative conservation value of each activity center in the Area of Impact was calculated based on a set of factors representing the biological productivity and sustainability of each site in terms of its potential contribution and importance to the federal conservation strategy. The following factors were used in the ranking process:

- Proximity of the activity center to a federally designated CHU
- Reproductive status and occupancy history of the activity center
- Proportion of private land in the core (0.5-mile radius) and home range (1.3-mile radius) of the activity center
- Predicted probability of occupancy by a nesting northern spotted owl pair using the habitat model developed by Zabel et al. (2003)

Under the Proposed Action, the applicant would establish CSAs focusing primarily on activity centers with the highest conservation value to provide demographic support to the federal conservation strategy. The activity centers with the highest conservation value are activity centers representing breeding pairs in close proximity to CHUs with a low percentage of private land in the home range and core area (i.e., high proportion of federal land) that have a high probability of occupancy by northern spotted owls. These activity centers supported by CSAs would be protected throughout the 50-year Permit Term and would serve as mitigation for incidental take of lower value activity centers.

The majority of northern spotted owls that could be taken over the Permit Term are from activity centers that:

- Are not in close proximity to a CHU;
- Contain high amounts of private land in the core and home range;
- Have inconsistent occupancy and productivity;

- Contain relatively poor quality habitat; or
- Are surrounded by extensive tracts of low quality habitat, thereby providing minimal connectivity value.

Thus, the majority of activity centers where incidental take would be authorized under the Proposed Action have relatively low conservation value and would provide minimal contribution to the federal conservation strategy. For more information on the Impact of the Taking analysis, please refer to the Impact of the Taking subheading in Theme Response 2 and Response to Comment KS Wild-40.

The commenter also calls into question the contribution of this HCP to recovery of the northern spotted owl. The recovery topic is addressed in Theme Response 7 and under the Recovery subheading in Theme Response 2.

The commenter asserts that the current prohibition on take contributes more directly to the survival and recovery of the northern spotted owl. The information contained under the Proposed Action versus No Action Alternative subheading in Theme Response 2 explains why the Proposed Action would result in greater long-term benefits to the northern spotted owl compared to current regulations.

The commenter further states that the Draft EIS does not disclose the age, sex and reproductive history of the owls proposed for take. See Response to Comment KS Wild-105.

Response to Comment KS Wild-61

The commenter identifies some inconsistencies with Table 2-7. Table ES-2 on page ES-6 of the Final EIS has been corrected to reflect the 26 CSAs that would be established under Alternative A.

Response to Comment KS Wild-62

The commenter states that the No Action Alternative would provide demographic support for owls associated with both CHUs and LSRs, while the Proposed Action would allow for the harvest of suitable habitat within the core area of five activity centers that are associated with LSRs, and Alternative A would allow for the harvest of suitable habitat within the core area of two activity centers that are associated with CHUs. The commenter questions whether allowing harvest within the core area of these sites associated with CHUs and/or LSRs minimizes and mitigates impacts to the owl "to the maximum extent practicable."

The Services would first like to clarify that the Proposed Action would provide demographic support for owls associated with CHUs, and Alternative A would provide demographic support for owls associated with LSRs, not the reverse as stated by the commenter. Also, Alternative A would allow for the harvest of suitable habitat within the core area of three (not two) activity centers that are associated with LSRs. The Response to Comment KS Wild-92 explains why the Services chose to base the northern spotted owl conservation strategy for the Proposed Action on CHUs.

Harvest of suitable habitat designated as CSAs within the core of mitigation sites will not be authorized, unless habitat thresholds as specified in the HCP are exceeded (see "Conditions for allowable harvest within the 500-acre core area" on page 5-38 of the HCP). Any harvest operations within the core or home range of the mitigation sites will require evaluation and

written approval by the USFWS. Conversely, under the No Action Alternative, harvest of suitable habitat within the 500-acre core area of northern spotted owl sites can occur as long as the provisions of the CFPRs are met. The No Action Alternative would not specifically or consistently maintain northern spotted owls associated with CHUs or LSRs (see Theme Response 2).

Please refer to the information contained under the Proposed Action versus No Action Alternative subheading in Theme Response 2 for an explanation of why the Proposed Action would result in greater long-term benefits to the northern spotted owl compared to current regulations. The discussions under the Impact of the Taking and Maximum Extent Practicable subheadings in Theme Response 2 address the commenter's concern that the conservation measures do not minimize and mitigate impacts to the northern spotted owl to the maximum extent practicable.

Response to Comment KS Wild-63

The commenter states that the Draft EIS does not discuss or analyze the likelihood, timing, location, and results of "take" of northern spotted owls. The Final EIS meets NEPA requirements to describe the environmental consequences of the action alternatives. It is not necessary to specify "take" in the Final EIS. Take is described in the HCP (see Section 9.2) and in the Biological Opinions issued with this Final EIS.

Response to Comment KS Wild-64

The commenter correctly states that in 2004 the USFWS announced a finding on the fisher warranting protection under the ESA as an "endangered" species, but due to other priorities the fisher was listed as a "candidate" species.

Response to Comment KS Wild-65

The commenter provides a summary of information contained in the USFWS's July 2003 and April 2004 findings regarding threats to and conservation status of fisher, and states that this information is not included in the Draft EIS's analysis of potential impacts to fisher. The commenter further states that the Draft EIS contains no independent analysis of fisher habitat or populations in the planning area and instead presents northern spotted owl habitat as a surrogate for disclosing impacts to fisher.

Information regarding the conservation status of and threats to the fisher as published in the 2003 and 2004 findings has been added in Section 3.3.4.11 of the Final EIS.

The Services acknowledged in the Final EIS that although fishers use terrestrial habitats at larger scales than northern spotted owls, the species would benefit from the owl and aquatic conservation measures, which are expected to provide localized increases in habitat quality for fisher. As stated in the Final EIS, the Proposed Action is expected to result in the development and persistence of mature stands, downed woody debris, increased canopy coverage, and large snags in the CSAs and riparian areas (WLPZs). The Services recognized in the Draft EIS that within CSAs under the Proposed Action, the maintenance and development of suitable habitat for spotted owls (i.e., large trees, dense canopy closure, multiple canopy layers, snags, coarse woody debris) would also provide suitable resting and denning habitat for fishers. The evaluation of potential effects of each alternative on fisher in the Draft EIS focused on the availability of resting, denning, and foraging habitat and specific habitat elements such as snags

and downed woody debris that are important to fisher. The Services evaluated potential changes to habitat in the context of what fishers are known to use rather than using owl habitat as a surrogate for disclosing impacts to fisher as stated by the commenter. However, the Services acknowledge that this analysis was not spatially explicit or quantitative, and relied on descriptions of general habitat trends.

Since the Draft EIS was released, Zielinski et al. (2010) published a landscape-scale habitat suitability model for fisher in an area that encompasses a large portion of the planning area. The availability of the Zielinski model allowed the USFWS to conduct a spatially explicit and quantitative evaluation of potential effects of the Proposed Action on fisher habitat and hypothetical fisher populations relative to current conditions at the local and regional scales within the California Klamath Province over the 50-year permit term. Based on this analysis, the Proposed Action is expected to result in an increase in habitat and hypothetical fisher populations within the California Klamath Area of Analysis and Area of Impact. However, at a finer scale, timber harvest activities at northern spotted owl take sites are anticipated to reduce habitat suitability, forest complexity, and the availability of structures that are essential to fishers for resting and denning at these locations. Based on the results of the fisher analysis, the determination in the Draft EIS that the Proposed Action would have both adverse and beneficial effects on the fisher population in and adjacent to the Plan Area relative to existing conditions and that these effects are not expected to be significant remains valid. For more information about the fisher spatial analysis, please refer to Appendix E of the Final EIS. Text under the Proposed Action heading within the fisher section in Chapter 4 (Environmental Consequences) of the Final EIS has been updated to incorporate the results of the fisher analysis.

Response to Comment KS Wild-66

The commenter states that the Draft EIS, HCP, and Implementing Agreement do not contain adaptive management measures or additional habitat protection measures for the fisher should the conservation needs of the fisher increase in the next 50 years.

There is the potential that the candidate species status of fisher could be changed to threatened or endangered within the 50-year HCP permit period. This circumstance would be considered a "changed circumstance" under the terms of the HCP (see Section 8.2.1.2 of the HCP). Should the listing status of fisher be changed from candidate to threatened or endangered during the 50-year HCP permit period, the ITPs would be reevaluated by the Services. The HCP Covered Activities may be modified, as necessary, to ensure that the activities covered under the HCP are not likely to jeopardize or result in the take of fisher or adverse modification of any designated critical habitat for the fisher. The applicant would implement the modifications to the HCP Covered Activities determined in consultation with the Services to avoid the likelihood of jeopardy to or take of fisher or adverse modification of any designated critical habitat for fisher. The applicant would continue to implement such modifications until such time as they apply for and the Services approve an Amendment of the ITPs, in accordance with applicable statutory and regulatory requirements, to cover the fisher or until the Services notify the applicant in writing that the modifications to the HCP Covered Activities are no longer required to avoid the likelihood of jeopardy of fisher or adverse modification of designated critical habitat for the fisher.

Response to Comment KS Wild-67

The commenter states that there is no quantification or disclosure in the Draft EIS of impacts to fisher of northern spotted owl habitat removal under the Proposed Action. In response to public comments on the fisher section of the Draft EIS, and new modeling research by Zielinski et al. (2010), the USFWS conducted a quantitative spatial analysis using a landscape-scale habitat suitability model to evaluate potential effects of the Proposed Action on fisher habitat and hypothetical fisher populations at the local and regional scales within the California Klamath Province. For more information about the fisher spatial analysis, please refer to Appendix E of the Final EIS. Text under the Proposed Action heading within the fisher section in Chapter 4 (Environmental Consequences) of the Final EIS has been updated to incorporate the results of the fisher analysis. Also see Response to Comment KS Wild-65.

Response to Comment KS Wild-68

The commenter states concerns with language in the Draft EIS and states that the Draft EIS must disclose the extent to which the impact of the proposed action is scientifically controversial. The Services agree with the commenter that the sentence stating "almost any forested landscape can provide dispersal opportunities" for northern spotted owl is an oversimplified, if not incorrect, characterization of dispersal habitat. The sentence has been deleted and replaced with a more descriptive definition of dispersal habitat from page 10 of the Final Recovery Plan for the Northern Spotted Owl: "Northern spotted owls disperse through a wide variety of forest conditions, including younger stands and open patches. However, northern spotted owls tend to favor foraging habitat (CWHR category 4M; average tree diameters ≥11 inches and conifer overstory trees with closed canopies of ≥40 percent canopy closure) with open space beneath the canopy to allow flight (USFWS 2008a)."

Response to Comment KS Wild-69

The commenter states that the Draft EIS largely ignores the impacts of accelerated suitable habitat removal in activity centers during the first three decades of HCP implementation. The impacts of habitat removal within the home ranges of activity centers proposed for take are addressed in the Final EIS on pages 4-24 and 4-25. Also, please refer to the Response to Comment KS Wild-40 for more information about the timing of take, and the Impact of the Taking and Maximum Extent Practicable subheadings in the Theme Response 2 for a discussion on the potential impacts and effects of the proposed take of northern spotted owl activity centers under the Proposed Action. The Theme Response 1 describes regulations restricting the applicant's timber harvest activities under the Proposed Action. Take is also addressed in the HCP (see Section 9.2) and in the Biological Opinions issued with this Final EIS. As stated in the USFWS Biological Opinion, implementation of the FGS HCP is anticipated to result in a 17 percent reduction in spotted owl nesting/roosting habitat and 31 percent reduction in foraging habitat from current levels within the California Klamath portion of the Area of Impact (within 1.3-miles of FGS), and an eight percent reduction in spotted owl nesting/roosting habitat and an 18 percent reduction in foraging habitat from current levels within the California Cascades portion of the Area of Impact. This amounts to approximately three percent of the total nesting/roosting habitat and 11 percent of the total foraging habitat available within the Klamath portion of the Area of Analysis (within 20-miles of FGS), and one percent of the total nesting/roosting habitat and four percent of the total foraging habitat available within the Cascades portion of the Area of Analysis. Relative to the quantity and quality of spotted owl

habitat on adjacent federally managed lands and protected within CSAs, habitat expected to be removed or downgraded on FGS lands contributes little to spotted owl survival and reproduction. The significance of this habitat loss over longer time periods (>25 years) is further reduced by the increase in foraging habitat expected to occur across FGS's ownership due to changes in the company's management practices (i.e., decrease in clearcutting and other even-aged management practices), according to FGS's Maximum Sustainable Production (MSP) analysis and as stated on page 2-17 of the Final EIS.

Response to Comment KS Wild-70

The commenter notes that the Draft EIS does not address the impact of the ITPs on northern spotted owl genetic variation, and attached a USGS report by Funk et al. (2008) that suggests loss of genetic variation is an emerging threat to the subspecies' persistence. The Services did not include a discussion on northern spotted owl genetics in the Draft EIS because the Plan Area occurs within a region that contains a fairly large and genetically robust northern spotted owl population. Genetic analyses have confirmed genetic mixing between the northern and California spotted owls, especially in the eastern Klamath region. Most gene flow is directional from the California spotted owl northward into the historical range of the northern spotted owl in the Klamath region of northern California and southern Oregon (Barrowclough et al. 1999; Haig et al. 2004a, 2004b). Mitochondrial DNA sequence analysis by Haig et al. (2004b) of 213 owls demonstrated California spotted owl gene flow into the traditional geographic range of the northern spotted owl (15 or 11.5% of 131 owls). When the analysis was limited to the Klamath region, this value went up to 12 or 20.3% of 59 birds, suggesting most of the genetic overlap is in the area surrounding the zone of contact between the two subspecies.

The authors of the 2008 USGS report published their findings in Conservation Genetics with an article entitled, "Evidence for recent population bottlenecks in northern spotted owls (*Strix occidentalis caurina*)" (Funk et al. 2010). The study concluded that the "Klamath Mountains Spotted Owl region" experienced a genetic bottleneck in the earlier part, but not in the second half, of the study. However, application of the study results to the Plan Area is problematic because conclusions regarding northern spotted owl populations in the "Klamath Mountains" appear to be drawn from samples collected in the eastern Cascades (i.e., Goosenest Ranger District and Cascades Demographic Study Area) and western Cascades in southern Oregon. Figure 1 shows that less than half of the samples were obtained from the Klamath Mountains, and only a couple of samples are from the California Klamath where the applicant's Plan Area resides. The conclusion of a genetic bottleneck in the "Klamath Mountains Spotted Owl region" is misleading because to a large degree the samples were drawn from other regions and BLM land in southern Oregon where intensive timber harvesting has likely impacted the owl for decades. The eastern Cascades portion of the Klamath Mountains region has also experienced a long history of intensive management and has an overall small northern spotted owl population. Conversely, the Klamath Mountains contain a large, relatively contiguous area of owl habitat, and has received far less timber harvesting than most areas within the northern spotted owl range. Additionally, the paper detected the highest heterozygosity and allelic richness in the Klamath Mountains.

Response to Comment KS Wild-71

The commenter states that reliance in the Draft EIS (page 3-61) on "unpublished" (undisclosed and non-peer reviewed) data regarding the low levels of Large Woody Debris (LWD) present in

the planning area does not constitute a hard look at the current ecological conditions of the planning area. The Services acknowledge that the analysis relies on "unpublished" data provided by the applicant. However, this data was determined to be the most reliable data on LWD levels in Plan Area streams and constitutes the best available information on which to base the analysis.

Response to Comment KS Wild-72

The commenter summarizes scoping comments from Klamath Riverkeeper. The comments are a list of various factors limiting salmon populations in the Klamath River watershed. The Services are aware of all of these limiting factors, and address these and other activities in the general discussion of factors contributing to cumulative effects (see Section 5.1). The discussion of salmon populations in the plan area has been updated to reflect the most current available information.

Response to Comment KS Wild-73

The commenter states concerns regarding salvage logging under the HCP. Response to Comment KS Wild-29 addresses the commenter's concerns.

Response to Comment KS Wild-74

The commenter states concerns with regard to the "trade" of existing habitat for "hypothetical" future habitat; see Response to Comment Mass E-Mail 1-1. With regard to the fate of the CSAs upon the expiration of the 50-year ITPs, see Response to Comment KS Wild-16.

Response to Comment KS Wild-75

The commenter states concerns with regard to the fate of the CSAs upon the expiration of the 50-year ITPs; see Response to Comment KS Wild-16.

Response to Comment KS Wild-76

The commenter states that the Draft EIS fails to analyze and disclose the impacts of the Proposed Action on sensitive species. Detailed responses are provided in Response to Comment KS Wild-35, Theme Response 4, and in other responses to comments in this letter.

Response to Comment KS Wild-77

The commenter states that while the Draft EIS reveals that great gray owls are a CESA-listed species, no surveys were conducted to determine their presence or quantify potential impacts from the Proposed Action. In response to this comment, additional effort was made to gather information regarding this species in the Plan Area. There have been incidental sightings on the Siskiyou Crest and Goosenest Ranger District (USFS pers. comm. 2010), although there is no formal survey data for great gray owls. The incidental sighting information has been added to the Final EIS in Section 3.3.4.3. As part of the CFPRs, the applicant is required to follow great gray owl survey protocols through the THP process. Please see Response to Comment KS Wild-35, and Theme Response 4 for additional information on the level of detail of analysis required by the Services under NEPA for this landscape level habitat conservation plan.

Response to Comment KS Wild-78

The commenter states that the Draft EIS contains no information at all regarding goshawk population dynamics in the planning area. Information on goshawk occurrences in the Plan Area has been added to the Final EIS in Section 3.3.4.4. This information was received from the Klamath National Forest (August 2010) based on species occurrences recorded in Forest Service geographic information systems (GIS). Please see Response to Comment KS Wild-35 and Theme Response 4 for additional information on the level of detail of analysis required by the agencies under NEPA.

Response to Comment KS Wild-79

The commenter states the Draft EIS acknowledges that no peregrine falcon surveys have been conducted and does not contain site-specific information or analysis for the peregrine falcon, yet states CALFIRE will protect peregrine falcons via future site-specific THP measures. Please refer to Theme Response 4 for a discussion of the required level of detail for this analysis. In addition, a data collection effort for peregrine falcon occurrences has been made in response to this comment. No sightings have been recorded by the USDA Forest Service in the applicant's area of influence and this information has been added to the Final EIS in Section 3. In the Environmental Consequences section (Section 4.3.3.8), it states that regardless of the alternative, the applicant would continue to operate in accordance with the CFPRs and other state regulations for the peregrine falcon. The potential for disturbance of peregrine falcons would be low under all alternatives because the protections afforded peregrine falcons would not change in any of the alternatives. The CFPRs include specific protection measures for peregrine falcon. The CFPRs also include provisions for review of THPs by CALFIRE such that if additional protective measures are needed, a mechanism exists for their incorporation on a site-specific basis. None of the alternatives would affect the application of these protective measures for peregrine falcons.

Response to Comment KS Wild-80

The commenter states that the Draft EIS contains no site-specific information whatsoever and does not attempt to address bat population dynamics nor the impacts of proposed salvage logging (of snags) in CSAs and riparian areas on these species. Please refer to the Response to Comment KS Wild-35 and Theme Response 4 regarding the level of detail of analysis required by the agencies under NEPA. Section 4.3.3.9 of the Final EIS and Response to Comment KS Wild-29 discuss snags as an integral component of the Terrestrial Species Conservation Program's CSAs. Snag retention in portions of the Plan Area would also be increased under the Aquatic Species Conservation Program because of higher tree retention standards in riparian areas in drainages with coho salmon (Class A lands). Because of this, the Services concluded that the Proposed Action would have beneficial effects to both the long-eared and the long-legged myotis, and would additionally benefit the long-legged myotis (due to its tendency to forage in riparian areas), relative to the No Action Alternative.

Response to Comment KS Wild-81

The commenter states concerns with regard to the lack of data and analysis for tailed frog and southern torrent salamander. In response to the comment regarding lack of data and analysis for tailed frog and southern torrent salamander, please refer to Theme Response 4 regarding the level of detail of analysis required under NEPA. Additional data collection efforts were

conducted for these species and results have been incorporated into Sections 3.3.4.12 and 3.3.4.13 of the Final EIS. Under all alternatives, the applicant would continue to operate in accordance with the CFPRs and other state regulations for species protection.

Response to Comment KS Wild-82

The commenter states that the Draft EIS fails to analyze or disclose the impacts of HCP implementation on Siskiyou Mountain Salamanders or Scott Bar Salamanders, instead relying on tenuous (undefined and unanalyzed) CESA "protection" of these salamander species by CALFIRE and the California Department of Fish and Game. The protection under CESA and the CFPRs is not considered undefined or tenuous by the Services, and is described in the Response to Comment KS Wild-36. Please refer to Theme Response 4 regarding the level of detail of analysis required under NEPA.

Response to Comment KS Wild-83

The commenter states that no attempt is made to disclose or analyze the current state of scientific knowledge regarding the population dynamics, habitat needs or range of lamprey in the Draft EIS. The habitat needs of lamprey are described in Section 3.3.4.18 of the Final EIS. Additional text has been added to this section to describe the limited scientific knowledge regarding the lamprey population(s) in the upper Klamath Basin. This section also explains that it is likely that Pacific lamprey would be found in the Plan Area in approximately the same areas as the anadromous salmonids and would spawn in habitats similar to those used by salmon and steelhead. Please refer to Theme Response 4 regarding the level of detail of analysis required by the agencies under NEPA.

Response to Comment KS Wild-84

The commenter discusses the lack of analysis of special-status plant species in the Plan Area. There would be no difference between the Proposed Action and the No Action Alternative for special-status plant species for the exception of the Yreka phlox, which has additional conservation and monitoring measures under the Proposed Action. The applicant would continue to follow CFPR THP protocol for plant surveys under the Proposed Action as they do currently. Please refer to Theme Response 4.

Response to Comment KS Wild-85

The commenter states that it is important to address the habitat needs of beaver and the porcupine and would like the Draft EIS to state exactly "how precautions will be taken to ensure the eventual return of healthy populations to the landscape." The commenter also states that the "importance of beaver populations to salmon habitat must be disclosed, as must the importance of porcupine as a prey species for the Pacific fisher. "Additional information on the beaver and its positive impact to fisheries habitat has been added to the Final EIS in Section 3.3.3.3 and additional information regarding the porcupine has been added to Section 3.3.4.11 in the fisher discussion.

Response to Comment KS Wild-86

The commenter states concerns that the Proposed Action would not mitigate impacts to the maximum extent practicable. This comment is a general introduction to the commenter's specific statements that the Proposed Action does not minimize and mitigate impacts to the

maximum extent practicable as required by the Section 10 implementing regulations. See detailed responses in Responses to Comments KS Wild-87 through KS Wild-99 below.

Response to Comment KS Wild-87

The commenter asks why Alternative A does not include road inventory and sediment reduction measures similar to the Proposed Action. The Services created Alternative A as a feasible alternative to the Proposed Action. The Services do not consider full application of the Northwest Forest Plan to private timberlands to be feasible, and therefore did not consider such an alternative. Instead of applying all Northwest Forest Plan measures (and creating an infeasible alternative), the Services focused on wide riparian buffers (consistent with the Northwest Forest Plan) as the primary aquatic conservation measure under Alternative A. These "riparian reserve" buffers are highly protective of aquatic habitat conditions. As described in Response to Comment KS Wild-7, the Services considered the applicant's objectives in considering the range of alternatives because an alternative should be feasible.

Response to Comment KS Wild-88

The commenter expresses concern that the applicant will be able to harvest all of its holdings in the home ranges of activity centers designated as mitigation sites if the required amount of habitat as specified in the HCP is met on Forest Service lands. As depicted in the habitat target maps for the CSAs in Appendix D of the HCP, each mitigation site requires some amount of habitat on the applicant's land to support the activity center. No mitigation site relies solely on habitat on federal lands because the amount is not sufficient to support an activity center due to the checkerboard land ownership in the Plan Area. The applicant has agreed to maintain the CSA habitat as mapped on its ownership for the duration of the 50-year Permit Term and cannot reduce areas designated as habitat to unsuitable, regardless of improvements to habitat on adjacent federal land.

Response to Comment KS Wild-89

The commenter asserts that the HCP's acreage retention requirement is the bare minimum habitat required by USFWS to avoid "take". The commenter then asks how would authorizing the proposed take while requiring retention of the bare legal minimum amount of habitat to avoid take of the mitigation sites serve to minimize and mitigate negative impacts to listed species "to the maximum extent practicable", given that take is currently prohibited.

The Services again clarify that the number of valid activity centers within the Area of Impact is estimated to be 82 activity centers representing 158 individual owls. Under the Proposed Action, the applicant is requesting incidental take of up to 83 spotted owls at 43 activity centers. The proposed take represents 52 percent of the local population, not two-thirds as stated by the commenter. For more information on the Impact of the Taking analysis, please refer to the Impact of the Taking subheading in Theme Response 2 and Responses to Comments KS Wild-40 and KS Wild-60.

Please refer to the information contained under the Proposed Action versus No Action Alternative subheading in Theme Response 2 for an explanation of why the Proposed Action would result in greater long-term benefits to the northern spotted owl compared to current regulations, and why the HCP requirements are not the bare minimum habitat required by USFWS to avoid "take". The discussion under the Maximum Extent Practicable subheading in

Theme Response 2 addresses the commenter's concern that the conservation measures do not minimize and mitigate impacts to the northern spotted owl to the maximum extent practicable.

Response to Comment KS Wild-90

The commenter states that the CSA protections disappear with fire events or at the end of the permit term. It is true that the applicant's HCP cannot restrict timber management activities after the ITPs expire. Existing regulations at that time will govern the applicant's management practices, unless all parties decide to renew the permits. As described on page 8-9 of the HCP, if a stand-replacing fire renders a CSA unusable by northern spotted owl, such that the CSA no longer meets its conservation objectives and the mitigation site no longer has a sufficient amount of habitat to support a reproductive northern spotted owl pair, this would constitute a changed circumstance. The affected activity center would no longer be considered a mitigation site. In response to the changed circumstance, the Services and applicant would discuss and adopt appropriate measures to maintain the approximate conservation value provided by the affected mitigation site under the original conservation strategy (i.e., delayed harvest around nearby activity centers where take is authorized, establishment of an alternative mitigation site with similar conservation value).

Response to Comment KS Wild-91

The commenter asks how allowing the applicant to take owls associated with 44 activity centers while being required to provide the minimum habitat to avoid take at 24 activity centers where take is currently prohibited means that "the level of mitigation is rationally related to the level of anticipated take" and provides "three times the conservation value that may be lost." Please refer to the information contained under the Proposed Action versus No Action Alternative subheading in the Theme 2 Response for an explanation of why the Proposed Action would result in greater long-term benefits to the northern spotted owl compared to current regulations, and why the HCP requirements are not the bare minimum habitat required by USFWS to avoid "take". The discussions under the Impact of the Taking and Maximum Extent Practicable subheadings in the Theme 2 Response address the commenter's concern that the conservation measures do not minimize and mitigate impacts to the northern spotted owl to the maximum extent practicable.

The commenter calls into question the validity of the Impact Evaluation Matrix (IEM) algorithm, which the commenter states was developed by the applicant's contractor and was neither published nor peer reviewed. Although it's true that the IEM has not been published, the statements that the algorithm was developed by CH2MHill and was not peer reviewed are inaccurate. The IEM was developed by USFWS and the applicant, and reviewed by Jeffrey Dunk, adjunct professor at Humboldt State University and research ecologist at USDA Forest Service, Redwood Sciences Laboratory. The IEM was modified based on the suggestions resulting from his peer review. Response to Comment KS Wild-12 discusses the role of the Independent Science Panel in the development and review of the HCP, and Response to Comment KS Wild-60 provides more information on the IEM.

Response to Comment KS Wild-92

The commenter provides a comparison summary between the Proposed Action and Alternative A in terms of connection to the federal land conservation networks and number of activity centers that would become mitigation sites. To recap, the main factor for selection of mitigation

sites using the Impact Evaluation Matrix (IEM) was proximity of an activity center to a federally designated CHU for northern spotted owl under the Proposed Action and LSR under Alternative A. This factor was given more weight in the IEM because a biological objective of the HCP is to provide demographic support to northern spotted owl populations on adjacent federal lands. This objective would be accomplished through conservation of suitable habitat (CSAs) on the applicant's ownership within the home range of selected high conservation value activity centers located within or in close proximity to a CHU (Proposed Action) or LSR (Alternative A).

Under the Proposed Action, 24 activity centers would be protected as mitigation sites because of their close proximity to a CHU. Under Alternative A, three of the Proposed Action's mitigation sites are not within 1.3 miles of an LSR and would become "take" sites, while five additional activity centers would become mitigation sites because of their close proximity to a LSR, for a total of 26 mitigation sites.

The commenter asks why isn't it necessary to designate all of the activity centers within 1.3 miles of both the LSR and CHU networks (for a total of 29 mitigation sites) in order to minimize and mitigate impacts to northern spotted owls to "the maximum extent practicable?" The Services chose to base the northern spotted owl conservation strategy for the Proposed Action on CHUs (which is largely congruent with the LSR boundaries in the Klamath region) because it is the federal land conservation system specific to protection of the northern spotted owl and is the network used for the current northern spotted owl Recovery Plan. The LSRs have a broader range of objectives than conservation of the northern spotted owl.

The reason why the Services didn't designate all activity centers within close proximity of a CHU and LSR as mitigation sites comes down to the "maximum extent practicable" discussion. Please refer to the information contained under the Maximum Extent Practicable subheading in Theme Response 2 for a detailed discussion on this topic.

The commenter also states that the HCP habitat retention requirements for mitigation sites is the exact minimum acreage necessary to avoid "take" and corresponds to current protections. The commenter notes that harvest of suitable habitat may be allowed within the 500 acre core. For these reasons, the commenter asserts that no substantive protections will be gained by the mitigation sites. Additionally, the commenter is concerned that almost all of the protected acreage to maintain the mitigation sites will be provided by federal lands.

Please refer to the information contained under the Proposed Action versus No Action Alternative subheading in the Theme 2 Response for an explanation of why the Proposed Action would result in greater long-term benefits to the northern spotted owl compared to current regulations, and why the HCP requirements are not the bare minimum habitat required by USFWS to avoid "take." This section and the Response to Comment KS Wild-62 detail the restrictions on harvesting suitable habitat within the core of mitigation sites. Response to Comment KS Wild-88 explains that the applicant is responsible for maintaining habitat to support the mitigation sites and can't fully rely on adjacent federal lands to meet the habitat requirements as specified in Section 5.3.1.1 of the HCP.

Response to Comment KS Wild-93

The commenter notes that activity center SK262 is located within 0.5 mile of a CHU, and asks how issuing ITPs to take the reproductive pair associated with this activity center minimizes

and mitigates negative impacts "to the maximum extent practicable?" The Services acknowledge that the main criteria for designating the 24 activity centers as mitigation sites under the Proposed Action was their close proximity to a northern spotted owl CHU. Only one activity center (SK262) within 1.3 miles of a CHU has habitat within its home range that is likely to be modified to the extent that incidental take could occur. The entire core area of this activity center is located on the applicant's ownership, and 57 percent of its home range is private land. This activity center was not selected as a mitigation site because the Services determined that the cost to the applicant for maintaining this site was substantially higher than its potential contribution to the federal conservation strategy. As discussed under the Maximum Extent Practicable subheading in the Theme Response 2, "maximum extent practicable" requires consideration of whether the mitigation is the maximum that can be practically implemented by the applicant (HCP Handbook, Section 7). Practicability includes consideration of the benefit to covered species that would be provided by additional economic investment by the applicant. The "benefit-cost" analysis described on page 9-15 of the HCP indicated that costs to the applicant for establishing CSAs to support SK262 greatly outweighed the potential benefits of maintaining the site. As described on page 6-60 of the HCP, incidental take of northern spotted owls associated with SK262 is mitigated by establishment of CSAs that directly support the 12 other known activity centers associated with the CHU, such that incidental take of owls at SK262 will not have a significant adverse impact on the local or regional population of northern spotted owls.

Response to Comment KS Wild-94

The commenter states that the proposed "Class A and B watersheds" correspond exactly with the Threatened & Impaired (T&I) Watersheds where similar conservation measures as those required by the HCP are required by law. Therefore, the commenter asserts, there are little to no conservation measures for riparian areas and coho under the action alternatives, except for the road management and slope stability mitigation measures, which are largely matters of timing, rather than actual additional protections for coho salmon and their habitat.

The road management measures specify that road inventories and treatment of sites exhibiting sediment delivery would be conducted in a systematic and prioritized manner and would cover the applicant's entire ownership. Implementation of the HCP under the Proposed Action provides an accelerated time frame for inventory and repair of high- and moderate-risk sediment delivery sites on roads in the Plan Area compared to the No Action Alternative. In addition, implementation of the HCP under the Proposed Action would result in sensitive areas receiving additional protection compared to the No Action Alternative by (1) requiring review by a professional geologist where harvesting is proposed on a connected headwall swale, and (2) establishing Special Management Zones (SMZs) for inner gorges along Class I, II, and III watercourses. When comparing the aquatic conservation strategy under the Proposed Action with the No Action Alternative, which is continued timber harvest within the Plan Area under the CFPRs, the Services have concluded that the Proposed Action would provide for greater conservation of salmonids and the habitat they depend upon (see Theme Response 9) and is the maximum extent practicable for the applicant.

Because Alternative A does not include the road inventory included in the Proposed Action, the commenter asserts that the Services have refused to develop or consider a reasonable action alternative that would require a road inventory and provide long-term certainty regarding the protection of streamside riparian zones. Both the road inventory and protection of riparian

zones with wide riparian buffers as under Alternative A entail a large cost to the applicant. The Services determined early in the process that the combined cost of including wide riparian buffers and the road inventory would be economically infeasible for the applicant and would not meet the agencies' purpose and need if the applicant were to stop development of an HCP that they determine is economically infeasible.

Response to Comment KS Wild-95

The commenter refers to page 3-50 of the Draft EIS that states "detailed information on aquatic habitats within the planning area is limited." and asserts that the reason that such information is limited is the applicants' unwillingness, and the agencies lack of interest, in producing such information prior to the issuance of ITPs in these watersheds.

The Services contend that whatever detailed information is available on aquatic habitats within the planning area is presented in the Final EIS. Theme Response 4 explains why the Services find the level of detail to be appropriate for the action at hand.

Response to Comment KS Wild-96

The commenter refers to the "unpublished" data that indicates that large woody debris levels "are less than those found in the reference streams" (Draft EIS page 3-62) and states that the Draft EIS fails to call for meaningful, quantifiable, and measurable levels of LWD to mitigate for the impacts of timber harvest on coho salmon and their habitat. The Services acknowledge that specific LWD "targets" are not specified in the Proposed Action or required in the Draft EIS. However, establishing quantitative LWD targets is difficult as natural recruitment occurs randomly and is generally episodic in nature. In addition, "the amount of in-channel LWD necessary to maintain suitable habitat conditions for anadromous salmonids is likely variable depending on factors such as forest type, watershed geology and topography, channel type, climate, and fish species" (Final EIS page 3-68).

Anticipated impacts on LWD are described on page 4-34 and 4-35 of the Final EIS where it is concluded that, over time, the riparian conservation measures would increase the amount of LWD in streams relative to the No Action Alternative, which would result in improved habitat conditions and benefits to overwintering coho and steelhead juveniles, as well as improved habitat conditions for other fish species. For this reason, is the Services are not requesting a specific LWD conservation strategy or a mitigation measure for LWD (i.e., impact is beneficial). Effectiveness monitoring of instream LWD levels and upslope recruitment potential will allow for a determination of whether the objectives of increased LWD recruitment and LWD recruitment potential are being met.

Response to Comment KS Wild-97

The commenter states that page 3-62 of the Draft EIS indicates that 14 of the 56 road crossings of fish-bearing streams identified by FGS on their lands are of "unknown status." See Response to Comment KS Wild-54.

Response to Comment KS Wild-98

The commenter asserts that the "unquantified" (DEIS 3-62) withdrawal of water from the Scott River Watershed, which is water quality limited for temperature and goes dry some months due to diversions, does not assure that the HCP will minimize and mitigate negative impacts to

listed species "to the maximum extent practicable." Please note that water withdrawals in the Scott River Watershed are primarily for agriculture. Page 3-68 of the Final EIS states that:

> "…surface water diversions and other human uses of surface waters are limited in the Plan Area. The applicant drafts water directly from stream channels for use in silvicultural operations or for fire suppression purposes. These diversions are temporary and limited in use, and the amount and timing of these withdrawals are unquantified. The applicant does not divert substantial quantities of water from streams in the Plan Area. Typically, the applicant conducts water drafting from Class II streams with flows greater than 2 cubic feet-per-second, or more commonly, from off-channel water holes."

The conditions under which water drafting can occur and the conservation measures to avoid adverse effects on the Covered Species are detailed in Appendix B (pages B-33 to B-36) of the HCP. See also Response to Comment KS Wild-22.

Response to Comment KS Wild-99

The commenter states that the "accelerated" timeframe of 15 years to inventory and treat sediment delivery sites in salmon habitat (Draft EIS page 4-4) seems like a rather long "accelerated" timeframe to qualify as the maximum extent practicable for mitigation of sediment effects. The commenter also notes that the requirements of the Scott River TMDL for sediment require sediment reduction efforts above and beyond what the Services deem "practicable."

The Services believe that the 15-year timeframe to inventory and treat sediment delivery sites in Class A lands is adequate and practical for the applicant. Given the magnitude of this effort and the current economic conditions for lumber producers in California, the 15 year timeframe represents the maximum extent practicable for the applicant. In addition, the Services note that the Proposed Action does not substitute for RWQCB requirements they may impose as part of the THP review process. Although implementation of the Proposed Action would result in some level of improvement in water quality conditions in the Klamath Basin over time, the Services fully acknowledge that the applicant may have additional measures they will be required to implement as directed by the RWQCB.

The Proposed Action is not intended to be a mechanism for meeting the requirements of the Scott River TMDL. The integration of different permit processes (e.g., Clean Water Act implementation) is at the discretion of the applicant and the applicant will remain subject to compliance with TMDLs.

Response to Comment KS Wild-100

The commenter refers to page 2-33 of the Draft EIS that states Moffett Creek (south of State Highway 3) and Bogus Creek "do not support coho salmon and have no real potential to do so in the future." The commenter provides copies of a Memorandum Report by Patrick Higgins and a NOAA document indicating the presence of coho salmon in the Moffett Creek and Bogus Creek watersheds. The commenter further asserts that the Services contend that FGS lands above the natural barrier are unimportant to coho and have ignored cumulative watershed impacts and the tendency of water to flow downstream. The commenter provides a report by Kier Associates (1999) to support their contention that sediment generated by Covered Activities may flow directly into downstream coho habitat and that coho in Bogus Creek are

already being impacted by low flows and alteration of peak flows. Additionally, the commenter asks the Services to consider the findings of Wigington et al. (2006) regarding the importance of intermittent streams for coho salmon.

The Services acknowledge receipt of the Memorandum Report by Patrick Higgins and the NOAA document referred to in the comment. Text has been added to the Final EIS in section 2.2.4.3 to clarify that coho salmon may be present downstream of the ownership in Class B drainages, but stream segments within the Plan Area do not currently support coho salmon and have no real potential to do so in the future. The support for this change has also been added: "There is a verified natural barrier to anadromy on Bogus Creek in the Middle Bogus drainage well downstream of the ownership. Coho have been documented in Moffett Creek only below the confluence of McAdams Creek."

Cumulative watershed impacts in Bogus Creek (and streams in other Class B drainages) have been addressed. With the exception of specific Class A measures designed specifically to minimize adverse impacts to coho salmon, Class B drainages receive protection comparable to Class A for anadromous salmonids.

The Services acknowledge receipt of the report by Kier Associates (1999). There are no fish bearing streams on FGS lands in the Bogus Creek drainage, and a large proportion of FGS lands in this drainage will be managed as spotted owl habitat as part of a CSA. For these reasons it was deemed unlikely that FGS's Covered Activities would have significant downstream effects in Bogus Creek.

The Services acknowledge the importance of intermittent streams to coastal coho salmon as identified in the Wigington et al. (2006) paper. However, it is unlikely that suitable conditions for coho salmon would be found in intermittent streams in the interior Klamath due to high summer temperatures. Many of the intermittent streams on the FGS ownership go completely dry during the summer and there are no residual pools.

Response to Comment 101

The commenter states that the East Fork Scott River has coho salmon such that FGS holdings in this watershed are mistakenly classified as Class C lands. The Services agree that the East Fork Scott River supports coho salmon; however, the commenter is mistaken about the classification. The applicant's holdings in the East Fork Scott River drainage are identified as Class B lands in Table 2-5, not Class C. As indicated in Response to Comment KS Wild-100, text has been added to clarify that coho salmon may be found downstream of the ownership in Class B lands.

Response to Comment KS Wild-102

The commenter notes that temperatures in the mainstem Klamath River and Scott River are lethal to salmonids, including coho salmon juveniles, for much of the summer and fall, and the cool mouths of tributaries are often the only areas where they can take refuge to survive in summer. The commenter also notes that in order to prevent loss of refugia for salmonids, the Lower Klamath TMDL states that there will be no net sediment discharge and asserts that activities covered by the HCP will contribute sediment and to cumulative effects in Horse and Beaver Creeks and are not likely to meet TMDL objectives.

The Services acknowledge that water temperatures in the mainstem Klamath and Scott Rivers are of concern and that thermal refugia are of great importance to rearing juvenile coho salmon,

even if they are not rearing in the tributaries themselves. However, the Services find that the applicant's ownership and covered activities generally occur in areas high in the individual drainages and as such, are likely to have little direct effect on water temperatures in the mainstem. Riparian protection under the Proposed Action is also enhanced relative to the No Action. The Services anticipate that implementation of the HCP will result in greater sediment reduction over time as compared to processes under current CFPRs. The Services also acknowledge that the applicant is independently responsible for meeting RWQCB requirements (See Theme Response 8).

Response to Comment KS Wild-103

The commenter asserts that Scott River sediment pulse events are likely with rain-on-snow events that will becoming increasingly common due to global warming.

The Services acknowledge that much of the applicant's ownership with areas of high road density are at high elevations that may be subject to rain-on-snow events now and in the future. However, little new road building is anticipated under the Proposed Action and many existing roads will be decommissioned as a result of the road inventory and treatment process. Implementation of the HCP is also anticipated to reduce the percentage of the existing road network that is hydrologically connected to Plan Area streams (Final EIS Section 4.2.1.2).

Climate change is addressed in the Final EIS in terms of the effects of the action on greenhouse gas emissions, and new text has been added in the Final EIS under Section 5 (Cumulative Effects). The Center for Biological Diversity offered extensive comments on the Draft EIS analysis, and the Services have responded to these comments individually in Appendix F (see also Theme Response 5). Future changes in flooding (from higher rain-on-snow flood frequencies) will be addressed through "changed circumstances" (see also Response to Comment KS Wild-46).

Response to Comment KS Wild-104

The commenter discusses the importance of the Siskiyou Crest (part of the Klamath-Siskiyou ecoregion) as a unique and important area of biodiversity. The Services are familiar with the information presented in the comment. The Draft EIS presents general information about the region as part of the Affected Environment. However, the Services are unable to evaluate consistency with regional plans and policies because there is no regulatory framework in place to protect the "Siskiyou Crest" in general.

Response to Comment KS Wild-105

The commenter provides a description of the ESA's Section 9 prohibition on "take" and the implementing regulation requirements for HCPs, which includes disclosing the number, age and sex of the species proposed for take, if known. The commenter states that the reason information on the reproductive history, age, and sex of northern spotted owls on the take list is unavailable is because the applicant has not conducted comprehensive surveys.

The Services acknowledge that some of this information is not contained in the Draft EIS or HCP documents. Table 6-2 of the HCP includes information on the reproductive status of owls at activity centers in the Plan Area. However, current information on the age and sex of most northern spotted owls on the take list cannot be accurately obtained because owls are highly mobile throughout the landscape; this type of data can only be collected within demographic

study areas with banded owls. In fact, information regarding the age, sex, and reproductive history of most northern spotted owls doesn't exist on private and federal lands throughout the subspecies range. Since recent surveys have not been conducted for most of the activity centers proposed for take, we made the conservative choice to assume that each of the activity centers currently supports owls at their highest historical reproductive status. Requiring the applicant to conduct a minimum of 3 years of property-wide protocol surveys or to survey all historic activity centers was not feasible financially and given the timeframe. Instead we relied on the peer-reviewed and published habitat-based probability of occupancy model (Zabel et al. 2003), survey history from the CDFG database, information from the USFS, and habitat quality evaluations based on digital orthophoto quads and aerial photos to determine the validity and likelihood of occupancy of each site.

Theme Response 4 further addresses the commenter's concern about the adequacy of the analysis as required by NEPA.

Response to Comment KS Wild-106

The commenter is concerned about the 50-year financial stability of the applicant. Given current timber prices and given that the applicant has already cut most of the merchantable timber on its land, the commenter finds it hard to see the applicant's business model being stable through the timeframe of the proposed HCP. In regards to the financial stability of the applicant please, see Theme Response 1.

Response to Comment KS Wild-107

The commenter states concerns with regards to the applicant's compliance with existing regulations. With regard to the applicant's compliance with existing regulations, see Response to Comment KS Wild-48.

Response to Comment KS Wild-108

The commenter states concerns with regards to the applicant's compliance with existing regulations. With regard to the applicant's compliance with existing regulations, see Response to Comment KS Wild-48.

Response to Comment KS Wild-109

The commenter contends that at this point, any incidental take of northern spotted owl or northern spotted owl habitat will have a net negative impact on the species because the applicant has already destroyed the viable habitat within the planning area. See Theme Response 2, Theme Response 7, and Responses to Comments KS Wild-91 through KS Wild-93.

Response to Comment KS Wild-110

The commenter states that there is no way to mitigate the loss of remaining nesting and roosting habitat because appropriate nesting and roosting habitat requires large, old and often dead trees and contends that the only such trees remaining on the applicant's property are those that are currently inhabited by owls and are the very trees that the applicant proposes to cut under its ITP. See Theme Response 2 and Theme Response 7.

Response to Comment KS Wild-111

The commenter states that they don't see how the USFWS can allow any "take" of northern spotted owl and nevertheless provide for the recovery of the species. Further, the commenter contends that issuing an ITP to the applicant would not just imperil recovery of the northern spotted owl, but could also result in jeopardy. The recovery topic is addressed in Theme Response 7 and under the Recovery subheading in Theme Response 2.

Response to Comment KS Wild-112

The commenter expresses concerns as to whether the applicant can provide adequate funding for the HCP, whether the applicant will meet the necessary and appropriate measures the agencies require for species protection and whether the applicant can otherwise adequately assure that the plan will be implemented as agreed. See Theme Response 1.

Response to Comment KS Wild-113

The commenter references the "No Surprises" rule and contends that the HCP must not include this "illegal provision." See Theme Response 6.

Response to Comment KS Wild-114

The commenter describes the process whereby the Services must undergo internal consultation under ESA Section 7 in order to take action under ESA Section 10. The Services have completed their respective consultation activities, and Biological Opinions are available for review as part of the Final EIS process.

As stated in the biological opinion, the USFWS determined that the anticipated incidental take of up to 61 northern spotted owls associated with 31 activity centers, in combination with the unlikely take of an unknown number of individuals at 12 additional low-quality sites, is not likely to jeopardize the continued existence of or impede the recovery of the threatened northern spotted owl across its range (USFWS 2012b). The Service has also determined that the proposed action is not likely to jeopardize the continued existence of the federal candidate West Coast DPS of fisher.

NMFS's Draft Biological and Conference Opinion (Opinion) on the proposed action of issuing an ITP to FGS and implementation of the HCP (NMFS 2012), concludes that issuing an ITP to FGS resulting in implementation of the HCP, may result in increasing distribution of salmonids in the action area as road-related barriers are removed over time, may potentially increase the abundance and productivity of salmonids within the action area as sediment production is reduced with a road management plan improving instream sediment conditions and thus habitat quality, and is likely to result in improvements to designated critical habitat for SONCC coho within the action area, increasing its conservation value to the ESU as a whole. The Opinion concludes that issuance of an ITP to FGS and implementation of the HCP is not likely to jeopardize the continued existence of SONCC coho salmon, and is not likely to result in the destruction or adverse modification of SONCC coho salmon critical habitat. NMFS (2012) concludes the proposed action is also not likely to jeopardize the continued existence of KMP steelhead or Upper Klamath and Trinity Rivers Chinook salmon.

Response to Comment KS Wild-115

The commenter expresses skepticism that any HCP proposed by FGS could satisfy the legal requirements of the ESA. The Services believe that the HCP and EIS adhere to the requirements of the ESA and NEPA, respectively, for the reasons provided in the responses to comments.

John Denton

From: John Denton
To: FGSHCP.SWR@noaa.gov
Subject: Protect Klamath coho - reject FGS HCP
Date: Friday, February 05, 2010 5:53:01 PM

Dear Ms. Roberts and NMFS,

Guys, this where the rubber meets the road. Based on Salmon impacts alone, such a plan requires rigorous restraints. 1

John Denton
418 SE Grand #302
Portland, OR 97214

John Denton

Response to Comment Denton-1

The commenter discusses concerns about impacts on Salmon and states that "such a plan requires rigorous restraints". The Proposed Action is expected to benefit the Covered Species compared to the No Action Alternative, and the Services have decided that the application meets the issuance criteria for an ITP. See Theme Response 9.

Nicolas Poister

LR

Doc#: AR _____ -SWR ____
AR#: 1514 ____SWR____ AR ____
Attachment(s): _____

February 5, 2010
Pasadena

Lisa Roberts
National Marine Fisheries Service
1655 Heindon Road
Arcata, CA 95521

Dear Lisa Roberts:

Please DO NOT authorize a habitat conservation plan (HCP) containing incidental take permits (ITPs) for threatened coho salmon to the Fruit Growers Supply (FGS) Company for its timber lands on the Klamath and Scott Rivers.

Logging in Klamath tributary watersheds including Beaver Creek, Horse Creek and the Scott River - much of it by FGS - has already caused severe sediment and temperature pollution, degrading habitat for threatened coho, imperiled spring Chinook, steelhead and other aquatic and amphibious species in those streams. 1

Recent coho counts suggest the Scott River has barely one year-class returning to spawn. This river already needs extensive restoration, not further degradation and additional "take" of threatened species. Likewise, tributaries like Beaver or Horse Creek should provide thermal refugia for the mid-Klamath's imperiled fish, but are instead being listed by water quality regulators as impaired precisely due to activities such as excessive logging. 2

The Draft Environmental Impact Statement (DEIS) on the proposed FGS HCP does not adequately analyze how logging at the levels allowed by the ITPs will not further exacerbate sediment, temperature and dissolved oxygen problems, let alone comply with California's North Coast Basin Plan that protects beneficial uses such as coldwater fisheries. The DEIS also does not incorporate adequate data about fish population trends. 3 4

NOAA/NMFS and USFWS should be acting decisively to enforce the Endangered Species Act on the Klamath and Scott Rivers, not standing by as it is eroded by yet another program that puts private interests before public resources. 5

Please uphold your responsibility to protect and restore coho under the federal Endangered Species Act by denying HCP/ITP coverage to a company that is part of the reason Klamath salmon are endangered. 6

Sincerely,

Nicholas Poister
803 E. Villa Street #5
Pasadena
CA 91101
626.744.9317

ORIGINAL

RECEIVED
FEB 08 2010
NOAA Fisheries
Arcata, CA

Nicholas Poister

Response to Comment Poister-1

The commenter states concerns about "sedimentation and temperature pollution, degrading habitat for threatened coho, imperiled spring Chinook, steelhead and other aquatic and amphibious species in those area." This comment is the same as Comment Mass E-Mail 2 – 1. See response to that comment.

Response to Comment Poister-2

The commenter states concerns about incidental take of threatened species as well as water quality concerns. This comment is the same as Comment Mass E-Mail 2 – 2. See response to that comment.

Response to Comment Poister-3

The commenter states concerns about the adequacy of the analysis of logging and the associated sedimentation, temperature and dissolved oxygen levels. Concerns are also raised about conformance with California North Coast Basin Plan. This comment is the same as Comment Mass E-Mail 2 – 3. See response to that comment.

Response to Comment Poister-4

The commenter expresses concerns about the adequacy of data for fish populations. This comment is the same as Comment Mass E-Mail 2 – 4. See response to that comment.

Response to Comment Poister-5

The commenter expresses concerns about the enforcement of the ESA on the Klamath and Scott's Rivers. This comment is the same as Comment Mass E-Mail 2 – 5. See response to that comment.

Response to Comment Poister-6

The commenter requests the Services to deny the HCP/ITP coverage due to the Services' responsibility to protect and restore coho under the federal Endangered Species Act. See Theme Response 9.

Michele Marta

From:	Michele Marta
To:	FGSHCP.SWR@noaa.gov
Subject:	Protect Klamath coho - reject FGS HCP
Date:	Saturday, February 06, 2010 5:03:12 PM

Dear Ms. Roberts and NMFS,

The klamath River was once one of the premiere salmon producers of the west coast. Salmon supported the Native peoples and local fishermen. Dams, logging, agricultural practices and road construction have decimated salmon populations. The only hope for these fisheries is through the Endangered Species Act protection. If you circumvent this protection, the salmon populations will be further impacted. I urge you to NOT authorize a habitat conservation plan containing incidental take permits for threatened coho salmon to the Fruit Growers Supply Company for its timber lands on the Klamath and Scott Rivers. 1

Thank you,
Michele Marta

Michele Marta
1019 W. Vernal Way
Stockton, CA 95203

Michele Marta

Response to Comment Marta-1

The commenter states concerns about the potential that the ESA will be circumvented and has concerns about takings of endangered species as a result of the HCP. The Services agree that logging in the Klamath River watershed has caused sediment and temperature impairment, degrading aquatic habitat. This is discussed in Chapter 5 (Cumulative Effects), along with the effects of several other categories of actions. The Services anticipate that the Proposed Action can make a positive contribution compared to continued timber management under current regulations under the No Action Alternative see Theme Response 9.

California Geological Survey

DEPARTMENT OF CONSERVATION
CALIFORNIA GEOLOGICAL SURVEY
6105 Airport Rd • REDDING, CALIFORNIA 96002-9422
PHONE 530 / 224-4748 • FAX 530 / 224-4841 • TDD 916 / 324-2555 • WEB SITE conservation.ca.gov

TO: Lisa Roberts
National Marine Fisheries Service, Arcata Area Office
1655 Heindon Road
Arcata, California 95521

FROM: Michael Wopat, Senior Engineering Geologist
California Geological Survey
6105 Airport Road
Redding, California 96002-9422

DATE: February 10, 2010

SUBJECT: Fruit Growers Supply Company's Draft Environmental Impact Statement and proposed Habitat Conservation Plan

Dear Ms. Roberts:

Thank you for the opportunity to comment on the *Draft Environmental Impact Statement for Authorization for Incidental Take and Implementation of Fruit Growers Supply Company's Multi-Species Habitat Conservation Plan* and the proposed *Fruit Growers Supply Company's Multi-Species Habitat Conservation Plan.* California Geological Survey (CGS) staff have performed a brief review of the Draft Environmental Impact Statement (DEIS) and the proposed Habitat Conservation Plan (HCP). Due to the nature of our review we do not present comments on specific aspects of the documents but do present for your consideration three general comments regarding geologic assessment as part of the HCP implementation:

1. "Trained RPF" and the RPF training. The text on DEIS page 2-36 and in HCP Sections 5.2.4.2, 5.2.4.3, and 6.1.3.5 (p. 6-28 & 6.29) indicates *"Trained personnel (certified engineering geologist, professional geologist, or trained RPF* [emphasis added]*)"* would (a) examine areas with a moderate or high potential for shallow mass wasting during THP layout and identify shallow MWHZs (mass-wasting hazard zones) for additional protection, as well as (b) examine potential deep-seated mass wasting hazards during THP layout and identify deep-seated MWHZs for additional protection.

   Comment: Certified Engineering Geologists (CEGs) and Professional Geologists (PGs) are licensed by the State of California to practice geology, which practice may include identification of MWHZs, whereas Registered Professional Foresters (RPFs) are licensed to practice forestry. The phrase *"trained RPF"* as used in the 1

above-cited sections of the DEIS and HCP does not appear to be defined in either document, nor does the type and amount of training that an RPF would require to undergo to be considered a *"trained RPF"* adequate to identify MWHZs appear to be addressed in these documents.

It would be helpful if (a) the term "trained RPF" *as used in the cited sections of the DEIS and HCP were defined, and (b) if these documents included a discussion of the amount and type of training that would be necessary for an RPF to be considered a* "trained RPF" *as indicated in the cited sections. It should also be noted that although an RPF may complete some sort of training, such training should not be construed as allowing the "*trained RPF*" to practice geology, and thereby eliminate the need for a qualified and licensed geologist's input when necessary.* 1 cont'd

2. Use of aerial photographic interpretation to identify deep-seated mass-wasting hazards – who does the analysis? Text in the first paragraph of HCP Section 5.2.4.3 indicates *" The compilations of landform mapping by Elder and Reichert (2006), used in combination with aerial photographic interpretation* [emphasis added] *during the term of the HCP (see Monitoring Requirements in Chapter 7), will be used to identify potential deep-seated mass wasting hazards at the drainage level.* Text addressing "Mass Wasting Assessment" in HCP Section 7 (HCP page 7-12) indicates *"FGS will conduct landslide surveys in the Horse, Beaver, and Cottonwood drainages using aerial photography* [emphasis added] *in conjunction with ground-based field identification."* The resulting landslide information would be used, along with data on timber harvest, potentially unstable landforms, and other landforms as described by hillslope gradient, shape, and parent material, in an assessment to compare the frequency of landslides for various landforms between areas harvested over the previous 15 years (study sites) and unharvested areas (reference sites).

Comment: No text was found that addressed the skill set or registration/ certification of those who would interpret the aerial photography to identify potential deep-seated mass wasting hazards (HCP Section 5.2.4.3) or to conduct landslide surveys (HCP pages 7-12). Such identification of landslides and mass-wasting hazard zones may be considered to constitute the practice of geology and, as such, should be conducted in accordance with The Geologist and Geophysicist Act (Business and Professions Code section 7800, et seq.), and the Rules and Regulations pertaining to the practices of geology and geophysics (Title 16, California Code of Regulations section 3000, et seq.). 2

We suggest that the HCP document clearly indicate the necessary qualifications of those who would be interpreting aerial photographs for the purposes of identifying potential deep-seated mass wasting hazards (HCP Section 5.2.4.3) and conducting landslide surveys (HCP page 7-12).

3. Absence of evidence is not evidence of absence. Text in HCP Sections 5.2.4.2 and 5.4.2.3 indicate deterministic slope-stability modelling (SHALSTAB) and remote sensing (aerial photographs) will be used, along with available landslide inventories

and geomorphic mapping to respectively identify potential shallow and deep-seated mass-wasting hazards at the drainage level.

Comment: CGS appreciates the use of modelling and remote sensing to assist in identifying areas where mass-wasting hazards may be present. It should be noted, however, that mass wasting may also occur in areas not identified by these methods. Accordingly, CGS cautions those identifying mass-wasting hazards from these studies to not conclude that mass-wasting hazards, as such, are absent because such hazards were not identified from aerial photographic interpretation or SHALSTAB modelling. Instead one may only conclude that evidence of mass-wasting hazards has not been identified through modeling or remote sensing means in drainages lacking positive evidence of such hazards. 3

We suggest that the HCP document clearly indicate that the modeling and remote sensing analyses will be utilized only as screening tools to help identify areas of potential concern related to mass-wasting.

We trust that the above comments are helpful in refining the FGS Draft EIS and HCP. Please feel free to contact Senior Engineering Geologist Michael Wopat, Ph.D., CEG, or Supervising Engineering Geologist William Short, CEG, if you should have questions regarding the above comments.

Regards,

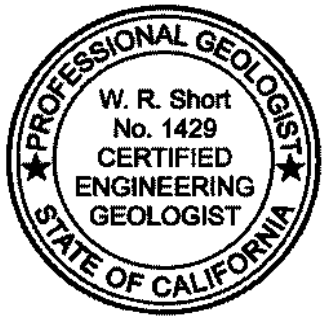
Original Signed by:

Michael A. Wopat, CEG 2150
Senior Engineering Geologist
Redding, California

Concur:

February 11, 2010 *Original Signed by:*

Date William R. Short, CEG 1429
Supervising Engineering Geologist
Sacramento, California



California Geological Survey

Response to Comment CGS-1

The commenter notes a lack of definition about what constitutes a "trained RPF" for the purposes of identifying shallow and deep-seated mass wasting hazard zones. The Services acknowledge that the text is not clear, and have requested that the applicant add a new section to the HCP to address RPF training. The new text (see p. 5-37 of the HCP) states:

> 5.2.4.4 Training
>
> RPFs preparing timber harvest plans for Covered Lands will be trained to address issues related to the conservation measures set forth in this section. The training for RPFs will be administered by a qualified California Professional Geologist or a Certified Engineering Geologist and will consist of identification of unique conditions found on Covered Lands.

The Services acknowledge that RPF training should not be construed as allowing the trained RPF to practice geology. The roles of Professional Geologists and/or Certified Engineering Geologists are described elsewhere under Slope Stability Measures (Section 5.2.4 of the HCP).

Response to Comment CGS-2

The commenter notes that HCP Section 5.2.4.3 does not define the qualifications of the individuals who would interpret aerial photos to determine the potential presence of deep-seated mass wasting hazards. The Services acknowledge that the text is not clear, and have requested that the applicant modify the text. The new text (see p. 5-36 of the HCP) clarifies that aerial photo interpretation is a "screening tool" and states that "other relevant data may also be used to identify areas of potential mass wasting concern (e.g., staff knowledge, previous THPs, etc.)." Also see Response to Comment CGS-1 regarding new text about RPF training. The intent is to screen areas of potential risk prior to engaging technical experts such as Professional Geologist or Certified Engineering Geologist. The Services do not believe that this screening process (aerial photo interpretation) "constitute[s] the practice of geology" as suggested by the commentor.

Based on the text changes to HCP Section 5.2.4.3, the Services determined that additional clarification in Section 7 (as suggested by the commentor) would not be necessary.

Response to Comment CGS-3

The commenter states concerns about mass wasting hazards and the ability to identify these hazards using aerial photos. See Response to Comment CGS-2 above. Aerial photo interpretation is now identified as a "screening tool" in HCP Section 5.2.4.3. No use of SHALSTAB is intended during implementation, and so no text changes to HCP Section 5.2.4.2 were deemed necessary.

Center for Biological Diversity

CENTER for BIOLOGICAL DIVERSITY

February 11, 2010

VIA ELECTRONIC MAIL

Lisa Roberts
National Marine Fisheries Service
1655 Heindon Road
Arcata, CA 95521
FGSHCP.SWR@noaa.gov

RE: Fruit Growers Supply Company's Multi Species Habitat Conservation Plan

Dear Ms. Roberts:

The Center for Biological Diversity ("CBD") is a non-profit, public interest, conservation organization whose mission is to conserve imperiled native species and their threatened habitat and to fulfill the continuing educational goals of its membership and the general public in the process. Consistent with this mission, I respectfully submit the following comments, on behalf of CBD and KS Wild, regarding the proposed Habitat Conservation Plan ("PHCP"), Section 10 permit application, DEIS and Implementing Agreement submitted by Fruit Growers Supply Company (FGS) for the northern spotted owl, Yreka phlox, coho and chinook salmon, and steelhead trout.

These comments primarily address the failure of the DEIS and PHCP documents to adequately address the issue of climate change, especially given that the PHCP covers a 50 year period during which the impacts of climate change will become significantly acute. In the PHCP and DEIS documents, climate change impacts are essentially only mentioned for the Yreka phlox. Owls and fish are largely ignored despite serious evidence of impacts. *See, e.g.*:

> Battin, James Matthew W. Wiley, Mary H. Ruckelshaus, Richard N. Palmer, Elizabeth Korb, Krista K. Bartz, and Hiroo Imaki. 2007. Projected impacts of climate change on salmon habitat restoration. *Proceedings of the National Academy of Sciences*, 104:16, 6720–6725 ("Despite uncertainty in climate-change predictions, modeled impacts on freshwater salmon habitat and productivity were consistently negative."); ("Model results indicate a large negative impact of climate change on freshwater salmon habitat. Habitat restoration and protection can help to mitigate these effects and may allow populations to increase in the face of climate change. The habitat deterioration associated with climate change will, however, make salmon recovery targets much more difficult to attain.");
>
> Fleming, Ian A, and Arne J Jensen. 2002. Fisheries: Effects of Climate Change on the Life Cycles of Salmon, volume 3, Causes and consequences of global environmental change, pp

1

Justin Augustine • 351 California St., Suite 600 • San Francisco, CA 94104
Phone: 415-436-9682 x302 • Fax: 415-436-9683 • jaugustine@biologicaldiversity.org

309–312, Edited by Professor Ian Douglas in Encyclopedia of Global Environmental Change. ("Climatic warming is likely to affect salmon species negatively, particularly those populations that rely extensively on freshwater habitats for juvenile rearing. They are likely to face altered water temperatures and precipitation related changes in flow regimes.");

McCarthy, Sarah G.Jeffrey J. Duda, John M. Emlen**,** Garth R. Hodgson, and David A. Beauchamp. 2009. Linking Habitat Quality with Trophic Performance of Steelhead along Forest Gradients in the South Fork Trinity River Watershed, California. *Transactions of the American Fisheries Society* 138: 506-521 ("We examined invertebrate prey, fish diet, and energy assimilation in relation to habitat variation for steelhead *Oncorhynchus mykiss* (anadromous rainbow trout) and rainbow trout in nine low-order tributaries of the South Fork Trinity River, northern California. These streams spanned a range of environmental conditions, which allowed us to use bioenergetics modeling to determine the relative effects of forest cover, stream temperature, season, and fish age on food consumption and growth efficiency. Evidence of seasonal shifts in reliance on aquatic versus terrestrial food sources was detected among forest cover categories and fish ages, although these categories were not robust indicators of *O. mykiss* condition and growth efficiency. Consumption estimates were generally less than 20% of maximum consumption, and fish lost weight in some streams during summer low-flow conditions when stream temperatures exceeded 15°C. Current 100-year climate change projections for California threaten to exacerbate negative growth patterns and may undermine the productivity of this steelhead population, which is currently not listed as endangered or threatened. To demonstrate the potential effect of global warming on fish growth, we ran three climate change scenarios in two representative streams. Simulated temperature increases ranging from 1.4°C to 5.5°C during the summer and from 1.5°C to 2.9°C during the winter amplified the weight loss; estimated average growth for age-1 fish was 0.4–4.5 times lower than normal (low to high estimated temperature increase) in the warm stream and 0.05–0.8 times lower in the cool stream. We conclude that feeding rate and temperature during the summer currently limit the growth and productivity of steelhead and rainbow trout in low-order streams in the South Fork Trinity River basin and predict that climate change will have detrimental effects on steelhead growth as well as on macroinvertebrate communities and stream ecosystems in general.");

1 cont'd

Farrell, A., E. Eliason, E. Sandblom, T. Clark . 2009. Fish cardiorespiratory physiology in an era of climate change. *Canadian Journal of Zoology*, 87:10 (pgs. 835-851) (discussing, at page 845, the "death spiral for salmon swimming at temperatures well above Topt");

Farrell, A. P. 2009. Environment, antecedents and climate change: lessons from the study of temperature physiology and river migration of salmonids. *The Journal of Experimental Biology* 212:23, pp. 3771-3780 (discussing salmon in the context of how "use of aerobic scope holds promise for scientists who wish to make predictions on how climate change may influence animal distributions");

Waples, R. S., T. Beechie, and G. R. Pess. 2009. Evolutionary history, habitat disturbance regimes, and anthropogenic changes: What do these mean for resilience of Pacific salmon

populations? *Ecology and Society* 14(1): 3 (discussing "restoration actions that can increase resilience to climate change": "How close to the historical template do the attributes of disturbance regimes need to be to promote resilience? At present our knowledge of salmon biology is not sufficient to answer that question with certainty. Empirical data show that salmon can deal to some extent with changing environmental conditions through phenotypic plasticity, and contemporary microevolution of salmon life histories has been documented over human lifetimes (Quinn et al. 2001, Hendry and Stearns 2004). However, we have only a very imperfect understanding of the limits of these processes in specific situations. This is an active area of research, particularly with respect to the response of salmon to future climate changes, and we expect that important new insights will be developed within the next 5–10 yr. In the meantime, a precautionary approach would suggest that restoration efforts should attempt to shape habitat processes in ways that promote disturbance regimes as close as possible to the historical template.");

Richter, Ann and Kolmes, Steven A. 2005. Maximum Temperature Limits for Chinook, Coho, and Chum Salmon, and Steelhead Trout in the Pacific Northwest. *Reviews in Fisheries Science* 13:1, 23-49 ("Projections for regional climate changes suggest summer flows will be decreased and water temperatures increasing (Mote et al., 2003). The complexity of any solution to the problem of salmonid survival will need to balance all of these considerations while achieving temperature regimes suitable for the persistence of salmon.");

1 cont'd

Bisson, P. A., J. B. Dunham, and G. H. Reeves. 2009. Freshwater ecosystems and resilience of Pacificsalmon: habitat management based on natural variability. *Ecology and Society* 14(1): 45 ("there is broad consensus within the scientific community that the recovery of at-risk salmon cannot be achieved without protecting currently productive freshwater habitat, maintaining watershed processes, and restoring those aquatic ecosystems that have been damaged by human activity"); ("Climate change is now accepted as a widespread threat to freshwater ecosystems (Poff et al. 2002) and particularly to Pacific salmon (Mote et al. 2003). A recent review of the effects of climate change on salmon in the Columbia River Basin (ISAB 2007) summarized the probable consequences along the Pacific coast of North America, including: (1) warmer air temperatures resulting in more precipitation falling as rain rather than snow, (2) diminished snow pack and altered timing of stream flows, (3) increased peak flows in streams, and (4)I ncreases in water temperatures. Not all of these anticipated trends are necessarily harmful to aquatic habitat, and many pale in comparison to other anthropogenic factors, but they do have implications for salmon resilience."); ("Climate change is often accompanied by the increased threat of invasions by non-native species, which may be well adapted to climate-mediated change (Moyle and Light 1996, Rahel and Olden2008)");

Bottom, D. L., K. K. Jones, C. A. Simenstad, and C. L. Smith. 2009. Reconnecting social and ecological resilience in salmon ecosystems. *Ecology and Society* 14(1): 5 ("Rapid changes in global climate could overwhelm resilience of many salmon ecosystems, particularly at the southern range of salmon distribution in the Pacific Northwest (Bottom et al. 2006, Battin et al. 2007).")

Franklin, Alan B., David R. Anderson, R. J. Gutierrrez, and Kenneth P. Burnham. 2000. Climate, Habitat Quality, And Fitness In Northern Spotted Owl Populations In Northwestern California. *Ecological Monographs,* 70(4), pp. 539–590 (discussing the "Role of climatic variation in temporal process, variation of life history traits; Long-term consequences of climatic variation on population growth and stability; and Climatic variation and habitat quality") (also discussing how "Current logging practices probably do not generate the type of mosaic that we observed in high-fitness territories; clear-cut logging leaves large, regularly shaped patches with clean edges. Fire disturbance, on the other hand, tends to leave smaller, irregularly shaped patches having convoluted edges (see Agee 1991). In addition, fire disturbance leaves a variety of seral stages based on the frequency of low, moderate, and severe burns over time."; "Forests potentially suitable for spotted owls in the Pacific Northwest have declined by 61% since the 18th century because of logging; most of this decline has occurred in the last 60 yr (U.S. Forest Service 1992). In addition to reduction in size, once contiguous blocks of mature and old-growth forests have become increasingly fragmented into mosaics of different seral stages.") 1 cont'd

The Time Frame Proposed Is Inappropriate

Given, as stated above, that new insights will be developed within the next 5–10 years regarding climate impacts and species like salmon, it is inappropriate to approve an HCP that covers 50 years. This is especially so in light of the precarious status of the many imperiled species in this area that may be adversely impacted by the project, the growing threats to biological diversity in this area and throughout the region (for example, due to residential and industrial development, increased recreation, and water extractions), the increased threats to each of the covered species (and those that should be covered) from this and other projects, and the large size of the covered area. In short, providing a long-term HCP to the applicant covering a 50-year period is likely incompatible with the survival and recovery of many of the listed species impacted by the proposed project. As an alternative, providing a 10 year HCP that could be renewed on similar terms for additional 10-year periods *only if* target conservation goals are met would provide a much stronger safety-net for species survival and recovery. 2

The 50-year term is also particularly troubling given the lack of analysis in the DEIS and PHCP of the impacts that climate change is likely already having on species and habitats in this region. Unfortunately the DEIS and PHCP have failed to take seriously the need to include such analysis. FWS/NOAA cannot continue to overlook this important factor when approving long-term HCPs and their accompanying take permits. On this basis alone the DEIS and PHCP are invalid. 3

The Failure to Address Climate Change Ignores the Agencies' Own Statements and Violates the ESA and NEPA

Just yesterday (February 10, 2010), Chris Nolin of the FWS noted that FWS's "primary focus is reorienting the agency so we can address climate change. We need to start looking at climate change in everything we do." Likewise, the Interior Secretary issued Secretary Order No. 3226, which specifically requires the Department of Interior and its agencies to "[c]onsider and analyze potential climate change impacts when undertaking long-range planning exercises" including 4

activities that conserve species placed at risk by climate change and developing effective adaptation strategies related to climate change. U.S. Secretary of Interior 2009, Order No. 3226, Amendment No. 1.

The Supreme Court has also acknowledged that "[t]he harms associated with climate change are serious and well recognized."[1] Moreover, in *NRDC v. Kempthorne*, the court noted explicitly that FWS must "consider the possible effects that climate change might have on [species'] habitat."[2] Here the PHCP/DEIS documents do no such thing, especially for the owl or salmon. As the *NRDC* court explained:

> While the precise magnitude of [climate] changes remain uncertain, judgments about the likely range of impacts can and have been made. *See e.g.*, U.S. Global Climate Action Report - 2002; Third National Communication of the United States Under the United Nations Framework Convention on Climate Change at 82, 101 (2002). The Service can and must evaluate . . . that range of likely impacts . . . .[3]

4 cont'd

Climate change is already impacting California in severe and irreversible ways. Under a low emissions scenario, by the end of this century alpine and subalpine forests are reduced by 50-75%, and Sierra snowpack is reduced 30-70% (Hayhoe et al. 2004).[4] Under a higher emissions scenario, alpine and subalpine forests would be reduced by 75-90%, and snowpack would decline 74-90%, with impacts on runoff and streamflow that, combined with projected declines in winter precipitation, could fundamentally disrupt California's water rights system (Hayhoe et al. 2004).

Climate change is a leading threat to California and the world's biological diversity. Climate change will become one of the major drivers of extinction in the 21st century (IUCN 2009; Mayhew 2007).[5] In listing species under the ESA, FWS/NOAA has also recognized that climate change poses an ongoing threat to wildlife posing a threat that can lead to extinction.[6]

---

[1] *Massachusetts v. EPA*, 127 S. Ct. 1438, 1455 (2007). *See also Center for Biological Diversity v. NHTSA*, 508 F.3d 508 (9th Cir. 2007) ("Global warming has already affected plants, animals, and ecosystems around the world. Some scientists predict that 'on the basis of mid-range climate-warming scenarios for 2050, that 15-37% of species in our sample of regions and taxa will be 'committed to extinction.'")

[2] 506 F. Supp. 2d 322, 348 (E.D. Cal. 2007)

[3] *Id*.

[4] Hayhoe, K., D. Cayan, C.B. Field, P.C. Frumhoff, E.P. Maurer, N.L. Miller, S.C. Moser, S.H. Schneider, K.N. Cahill, E.E. Cleland, L.Dale, R. Drapek, R.M. Hanemann, L.S. Kalksetin, J. Lenihan, C.K. Lunch, R.P. Neilson, S.C. Sheridan, and J.H. Verville. 2004. Emissions pathways, climate change, and impacts on California. *PNAS* 101:34, 12422-12427

[5] Mayhew, Peter J, Gareth B Jenkins, and Timothy G Benton. 2008. A long-term association between global temperature and biodiversity, origination and extinction in the fossil record. Proc Biol Sci. January 7; 275(1630): 47–53

[6] *See, e.g.*, 71 Fed. Reg. 26852, Endangered and Threatened Species: Final Listing Determinations for Elkhorn Coral and Staghorn Coral; 73 Fed. Reg. 28212, Endangered and Threatened Wildlife and Plants: Determination of

Scientists have predicted three categories of impacts from global warming: (1) earlier timing of spring events, (2) extension of species' range poleward or upward in elevation, and (3) a decline in species adapted to cold temperatures and an increase in species adapted to warm temperatures. Species are also at great risk because climate change can alter conditions for diseases and their vectors in a way that allows the incidence of disease to increase and spread. Global warming can exacerbate plant disease by altering the biological processes of the pathogen, host, or disease-spreading organism (Harvell et al. 2002).[7] For example, cold winter temperatures limit disease in some areas because the cold kills pathogens. Warmer winter temperatures can decrease pathogen mortality and increase disease (Harvell et al. 2002). Warmer temperatures can also increase pathogen growth through longer growing seasons and accelerated pathogen development (Harvell et al. 2002). The most severe and least predictable disease outbreaks will likely be when climate change alters host and pathogen geographic ranges, so that pathogens are introduced to new and vulnerable hosts (Harvell et al. 2002).

Climate change will also elevate the importance of wildlife linkages to connect species populations, or provide for migratory corridors for wildlife species impacted by changing ecosystem conditions. One of the critical functions of wildlife corridors or wildlife linkages is to buffer the negative impacts of climate change on wildlife through facilitating migration and genetic flow (Halpin 1997).[8] Thus, the importance of wildlife connection or linkage must be analyzed in the context of its elevated importance to provide for wildlife migration due to climate change. Habitat loss and fragmentation caused by logging will exacerbate the problem and that also must be addressed by the PHCP/DEIS. 4 cont'd

An HCP is a long term commitment (here, 50 years) and therefore, given that the impacts of climate change will become more and more pronounced as time passes, thorough analysis and adequate assessment of climate change is of utmost importance in the PHCP and DEIS. Climate change will undoubtedly cause stress to the northern California ecosystem and the species that reside there. Thus, absent an analysis of that stress and associated impacts, the HCP cannot lawfully be issued. To do otherwise would violate the ESA's requirements regarding best available science, the duty to ensure against jeopardy, and the duty to promote the conservation (i.e., recovery) of listed species.[9] In order to meet their ESA requirements, FWS and NOAA must examine what the status of the owl and salmon will be over the next fifty years, and a key aspect of that is how climate change will influence the species over that time period.

Threatened Status for the Polar Bear (*Ursus maritimus*) Throughout Its Range; 74 Fed. Reg. 1937, Endangered and Threatened Wildlife and Plants: Endangered Status for Black Abalone

[7] Harvell, C. D., C. E. Mitchell, J. R. Ward, S. Altizer, A. P. Dobson, R. S. Ostfeld, and M. D. Samuel. 2002. Climate warming and disease risks for terrestrial and marine biota. *Science* 296:2158-2162

[8] Halpin P. 1997. Global Climate Change And Natural-Area Protection: Management Responses And Research Directions. *Ecological Applications* 7:3, pp. 828-843

[9] *See, e.g., National Wildlife Federation v. NMFS*, 481 F.3d 1224 (9th Cir, 2007) (agency must take into account both the survival and recovery of the species "[b]ecause a species can often cling to survival even when recovery is far out of reach").

NEPA, of course, also requires the consideration of climate change, including how climate change has and will continue to impact the affected environment. Failure to address climate change would violate NEPA's requirement that a thorough analysis of impacts, especially cumulative impacts, be conducted. Here, for instance, the DEIS fails to adequately consider the impacts of global climate change on species covered under the PHCP and the ecosystems that those species rely upon, and the indirect impacts of greenhouse gas emissions associated with the project.

An EIS must provide a "full and fair discussion of significant environmental impacts" of a proposed action, "supported by evidence that the agency has made the necessary environmental analyses."[10] An EIS must "inform decision-makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment."[11] This discussion must include an analysis of "direct effects," which are "caused by the action and occur at the same time and place," as well as "indirect effects" which are "later in time or farther removed in distance, but are still reasonably foreseeable."[12] As the Ninth Circuit has stated, this consideration "must amount to a 'hard look' at the environmental effects."[13] As already stated, the DEIS fails to account for the impacts of climate change on species covered under the PHCP. The DEIS and PHCP's analysis fails to include a substantive analysis of the impacts of climate change on the covered species that will be subject to "take" as a result of the ITP. This omission falls well short of the hard look required under NEPA in considering the environmental effects of the permitted harm, harassment, and destruction of imperiled wildlife and wildlife habitat. Global warming's well established impacts on resources including air quality, water resources, and biological resources will combine with and exacerbate the effects of logging facilitated by the PHCP, but the DEIS never adequately addresses this critically important aspect of the problem. The analysis should also have incorporated a consideration of the effects of climate change to existing ecological conditions. As the Ninth Circuit has recognized, "[g]lobal warming has already affected plants, animals, and ecosystems around the world."[14] 5

Furthermore, without adequate information on greenhouse gas emissions and their relationship to climate change, the DEIS cannot properly describe the existing environment, nor can it properly analyze the reasonably foreseeable direct, indirect, and cumulative impacts of the development facilitated by the project. The "affected environment" section of the DEIS should establish the context in which the proposed action must be evaluated.[15] NEPA

[10] 40 CFR § 1502.1

[11] *Id.*

[12] 40 C.F.R. §§ 1502.16, 1508.8; *see Idaho Sporting Cong. v. Rittenhouse*, 305 F.3d 957, 963 (9th Cir. 2002) ("NEPA regulations and caselaw require disclosure of all foreseeable direct and indirect impacts" of a proposed action)

[13] *Idaho Sporting Cong*., 305 F.3d at 963

[14] *CBD v. NHTSA*, 538 F.3d at 1190-91 (citations omitted)

[15] 40 C.F.R. 1502.15

regulations require that when considering whether the proposed action may have a significant effect on the environment, an agency must analyze the impacts "in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality . . . . Both short- and long-term effects are relevant."[16] This discussion must include an analysis of "indirect effects" which are "later in time or farther removed in distance, but are still reasonably foreseeable."[17]

The DEIS must place the logging it facilitates into context by fully explaining greenhouse gas emissions and climate change and by fully assessing the project's impacts within this environmental context. This information is readily available and the DEIS must evaluate and reveal such information before approving a project that will allow take of covered species threatened by climate change for the next 50 years, permit the destruction of critical habitat, and indirectly contribute to greenhouse gas emissions by facilitating logging on the property.

5 cont'd

Similarly, to effectively evaluate the significance of impacts, it is important to establish a baseline against which to compare the impacts of a proposed action, consisting of the pre-project environmental considerations. The DEIS fails to account for climate change in establishing a baseline against which to measure the impacts of the project. In doing so, the DEIS masks the increased threats to the species covered under the plan and the impacts that will be associated with the indirect effects on biological resources, water resources, and air quality. The DEIS also uses an improper no-action alternative baseline against which the alternatives are measured. This inflated baseline masks the impacts to species, and improperly downplays the indirect effects of the HCP. The DEIS's failure to conduct an adequate analysis of the project's indirect impacts from greenhouse gas emissions, omission of the impacts to the affected environment from climate change, and improper minimization of the significance of the impacts of the project prevent the DEIS from properly disclosing the significance of the climate change impacts from the project.

The DEIS also fails to provide a proper accounting for indirect greenhouse gas emissions associated with the project. Inconsistent, incomplete, or improper data fails to provide the public and decision-makers with the necessary information required for the hard look NEPA requires. For instance, it is important to note that the lead agencies have obviously allowed CH2M Hill to address, without proper independent review, how forestry operations will impact GHG emissions. Currently, the DEIS asserts that:

6

> Forests receiving even-aged management capture as much as 150 percent more carbon per acre than less intensive forest management scenarios (i.e., selection harvest system under Option C of the CFPRs or low-level, non-product-driven custodial management) and after accounting for carbon in wood products (James et al. 2008).

[16] 40 C.F.R. § 1508.27(a)

[17] 40 C.F.R. §§ 1502.16, 1508.8; see *Idaho Sporting Cong. v. Rittenhouse*, 305 F.3d 957, 963 (9th Cir. 2002) ("NEPA regulations and caselaw require disclosure of all foreseeable direct and indirect impacts" of a proposed action)

> Overall, while the net effects of the forest products industry's activities cannot be precisely calculated, there is no reason to suspect that these activities are responsible for significant net losses or gains in forest ecosystem carbon (Skog et al. 2008). For private timberland under sustainable forest management, it is reasonable to assume that the net change in forest carbon stocks on land affected by industrial forestry activities is zero (Skog et al. 2008). Therefore, carbon removal by California forests is about one-and-one-half to two times greater than carbon emissions; that is, forest land uses function as net sinks, rather than sources, for carbon (ARB 2008h).

James et al. is an unpublished white paper developed by the timber industry and is incorrect in its findings and is inadequate to address the greenhouse gas and climate Impacts of forestry operations. As an initial matter, "[b]ecause this research was funded … by [the timber industry]," FWS/NOAA, like the U.S. Supreme Court, should "decline to rely on it."[18] Regardless, this paper is a highly biased and fatally flawed justification of forest management practices through selective presentation of data and analysis with regard to forest carbon stores and sequestration. Two reviews of the SPI study conducted by experts on science, climate, and logging found the study to lack credibility. One review was conducted by Dr. Olga Krankina, a professor and researcher of climate impacts at Oregon State University.[19] Another was conducted by Peter Miller, a senior scientist with the National Resources Defense Council, and a board member for the California Climate Action Registry.[20] Our own review of the SPI paper also found many incorrect assumptions, flaws with the study methods, results and conclusions drawn from these results. Findings and conclusions from these reviews are outlined in the following sections. 6 cont'd

1. The Conclusions Of The SPI Paper Are Based On A Comparison Of Incomparable Management Scenarios, And Fail To Include Critical Comparisons Of Alternatives

The SPI paper compares the total amount of carbon sequestered under four management scenarios for two different watersheds in the Sierra Nevada. These include Custodial Management (light to moderate selection harvests), Option C Selective Management (heavy thinning that reduces the stocking to minimum allowed level), Intensive Management (converting all remaining mixed conifer forests to Ponderosa Pine plantations with 80-year rotation age) and Regulated Management (hypothetical – even distribution of plantations by eight 10-year classes).

The first issue with these scenarios is that the "regulated management" option cannot be directly compared to the first three. The first three scenarios are generally comparable because they are initiated with the results of the current forest inventory (meaning they start from the same

[18] *Exxon Shipping Co. v. Baker*, 128 S. Ct. 2605, 2626 (U.S. 2008)

[19] Krankina, Olga R. 2008. Review of Sierra Pacific Industries Report: "Carbon Sequestration in Californian Forests: Two Case Studies in Managed Watersheds" by C. James, B. Krumland, and P. J. Eckert . 6 p

[20] Miller, Peter. 2008. A Review of SPI's study: "Carbon Sequestration in Californian Forests; Two Case Studies in Managed Watersheds." National Resources Defense Council, 7 pp.

baseline). However, the regulated management scenario has an initial condition of a fully established "normal" or "regulated" forest. In other words, its starting point is actually achieved by 80 years of the Intensive Management Scenario. Krankina (2008) states: "Therefore direct comparison of projected gains in carbon pools that involve Regulated management Scenario (e.g., p. 3; bottom paragraphs) is inappropriate."

For example, in a comparison of the total carbon pool and the forest carbon pool across management scenarios, SPI reports results and makes the following conclusion based on these results:

> Intensively managed and regulated forests show substantial increases in the forest carbon pool and total carbon pool yield when compared to the other more extensive Option C Selection and Custodial management approaches (James et al. 2007).

This is an unfair comparison and conclusion given the different starting points of each scenario. This strongly and inappropriately biases the results in favor of Intensive and/or Regulated management.

At the same time, the SPI paper fails to analyze important alternatives that would "be critical for a meaningful assessment of the role of forest management practices (Krankina 2008)." Krankina (2008) notes the absence of both the "business- as- usual scenario" that would show the long-term effects of current management and the "no management" scenario that would show the long-term effect of natural processes of carbon exchange. Krankina (2008) highlights the importance of the lack of consideration of the latter with the following: 6 cont'd

> **No management intervention scenario is not considered.** Reduction of timber harvest in PNW National Forests resulted in dramatic increase in forest carbon stores (Alig et al. 2006). Figures in Appendix I suggest that allowing the existing mixed conifer forests attain age 160 years would result in forest carbon pool that is more than twice as high as the average forest carbon store in a regulated scenario for plantations.

Miller (2008) also points out how SPI fails to include an alternative that prioritizes carbon sequestration and/or considers other environmental variables/impacts. Miller (2008) sums up the problem with omitting this management scenario in terms of carbon and wildlife impacts:

> The SPI analysis fails to include a scenario with reduced harvest levels that allow a forest to sequester significantly increased amounts of carbon in forest biomass. Both watersheds evaluated in the SPI analysis are middle-aged forests that are near their maximum rates of growth and with reduced harvest levels could double or triple the volume of carbon sequestered as well as provide valuable wildlife habitat (p. 50). However, even the Custodial scenario is only designed to "maintain current stocking levels" (p. 20). A comparison of any of the SPI scenarios with a scenario designed to maximize forest carbon would demonstrate the climate benefits of a high-habitat value approach. Consideration of demand-side forest product programs like recycling and wood use efficiency could allow for reduced harvests (Miller 2008).

Any conclusions the SPI paper draws from these inadequate comparisons are flawed and incomplete, and are not useful in estimating the relative capacity of the management scenarios to sequester carbon.

2. The SPI Paper's Estimate Of The Carbon Pool Is Incomplete, Not Scientifically Valid, And Not Justified

The SPI paper estimated net changes in various carbon pools over 10 future decadal planning periods. SPI compared differences in carbon storage across components including live biomass, dead biomass, soil carbon, off site products, and off site land fills. In order to estimate live biomass, the authors tested three different statistical LBM models to determine tree biomass from forest stand characteristics. The SPI paper states:

> It was not possible to directly verify which of the above models (1 through 3) provide the most accurate biomass assessments for the watersheds in this study over the entire planning horizon (p. 25) (James et al 2007).

Nonetheless, the SPI paper then ignored these limitations and provided a comparison of forest carbon over time using each of the models. This comparison resulted in SPI's assertion of "significant differences among the LBM models particularly for the Intensive scenario (Miller 2008)." However, SPI neglected to adopt a scientifically valid or reliable model or at least to provide a valid justification for their choice, and instead stated that they "arbitrarily used Model 2 as a comparative basis (p.34)." Despite differences in a comparison across management scenarios, SPI chose to report only the results of the arbitrarily-chosen Model 2 which produces the largest increase in sequestration from the Intensive scenario compared to the Option C scenario. Thus, SPI may have greatly overestimated the carbon sequestration benefit of their management scenarios by choosing to only focus on this model. In fact: 6 cont'd

> The net carbon benefit estimated using either of the other two models appears to be approximately 40% lower than the reported results. (p. 33) Model 2 also produces an estimate of decreased sequestration from the Option C scenario that is approximately 50% larger than either of the other two models (Miller 2008).

SPI recognizes the inadequacy of this approach. With specific regard to the lack of appropriate models, the SPI paper states:

> None are perfect and it would appear that live biomass estimation methods currently available in California are the most limiting in terms of precision when estimating total carbon stored in forest stands (p.26)....It is also difficult to determine if existing biomass models were appropriate for use in California forests. Therefore, the study concluded the two main problems in providing an accurate forest carbon appraisal system in California that could be applied at the project level under the CCAR protocols were a) imprecise biomass modeling systems and b) shortcomings of publicly available forest growth models (p.41).

Nonetheless, the SPI paper ignored these deficiencies, and did not modify their analysis to correctly represent this difficulty or lack of data. Instead they report and highlight the results that make it appear that intensive management will be the best for carbon sequestration. As a result, the conclusions and results are highly misleading in both their certainty and their substance.

3. The SPI Paper Used Incorrect Assumptions And Statistics That Biased The Results In Favor Of Intensive Management

Krankina (2008) asserts: "The approach adopted in the report includes several assumptions that bias the results in favor of intensive management." We highlight several of these below:

- **The SPI paper incorrectly assumes that dead biomass pools are in equilibrium when there is a change in forest management.**

Assuming that the amount of carbon stored in dead biomass (logs and snags or fallen trees) remains the same despite changes in forest management is incorrect. There is carbon stored in dead biomass (snags, logs, etc.) and when a forest is harvested, carbon is released from these pools. If the dead biomass is allowed to remain on the ground it will continue to accumulate carbon over time. In addition, logging removes trees that would have eventually died and fallen. Aggressive logging reduces the amount of trees that die and subsequently fall, thereby decreasing the amount of dead trees on the ground and the amount of carbon that is stored in these pools. Both studies cite this as a flaw: 6 cont'd

  - ... stasis is assumed for all dead biomass pools including snags and forest floor (which has to include logs even though they are not mentioned). As a result the SPI projections do not include losses or gains in dead biomass pools. In reality, logs and snags are created by tree mortality and are NOT in stasis (equilibrium) when there is a change in forest management. These are significant carbon pools and losses from these pools were shown to be a major source of carbon to the atmosphere as old-growth forests were harvested in the PNW (Harmon et al. 1990). As forest stands grow older, dead biomass pools increase unless timber harvest removes live trees. Aggressive management reduces tree mortality which is input into dead biomass carbon pools; the result is the extremely low level of dead biomass, especially coarse woody debris in intensively managed forests. There is a vast body of literature on the subject. Omission of the essential link between live and dead biomass pool is a major flaw of the report that likely biased the results in favor of intensive management scenario. (Krankina 2008).

  - The SPI analysis assumes that soil carbon levels remain constant across management scenarios, despite the significant soil disturbance proposed under the Intensive scenario. In the Intensive scenario, forest soils would be mechanically ripped to three feet deep after existing stands were cleared, likely resulting in a significant loss of soil carbon. (p. 48)(Miller 2008).

- **The SPI paper inappropriately overestimates the contribution of wood products to the carbon pool.**

The SPI report states that they used the following assumptions to account for carbon storage in the long-term wood product carbon pool:

> 25% of long-term wood products are assumed to go to landfills when they are taken out of service. Recent studies (Ximenes et al., 2005) indicate that the decomposition of wood products in landfills is insignificant so we assume wood carbon in landfills is permanently sequestered (p. 29)….. Wood products are subsequently taken out of service at an annual rate of 1% of year (Winjnn et. al. 1998).

In fact, these are incorrect assumptions. Forest products that end up in landfills do slowly decompose and release carbon, thus they do not permanently sequester it as SPI suggests. The fact that the SPI study is based on this falsity has skewed their results to favor scenarios that include intensive logging. Both reviews of the SPI paper, as well as existing science, dispute these assertions and support the idea that SPI has overestimated the contribution of wood products to the carbon pool to favor intensive management:

- The assumption that forest products taken out of service and transferred to landfills retain carbon in perpetuity (p. 29; bottom) is clearly untrue. While the decomposition is slow in landfills it does occur and carbon is gradually released into the atmosphere. The no-decomposition assumption is yet another one that biases the results in favor of intensive management scenario. Finally, the assumption that wood products are taken out of service at an annual rate of 1% per year is also unrealistic. This would imply that 50% of long-term wood materials produced in 1930-ies are still in service today (Krankina 2008). 6 cont'd

- The analysis also assumes wood carbon in landfills is permanently sequestered, disregarding both the U.S. Department of Energy and the Environmental Protection Agency's methodology that includes decay rates for land filled wood.[21] (p. 29) The use of a more realistic lifetime and decay rates would result in significantly reduced estimates of carbon storage in wood products and a smaller, if any, net climate benefit from increased wood product production in the Intensive scenario (Miller 2008).

- In the text of the report the authors identify two different possible options for tracking harvest residue (e.g. tree tops, branches, and foliage). The first option is to assume that this material contributes to maintaining forest floor biomass, which the study elsewhere assumes to remain constant at 11.5 tons C/acre. (p. 23) The second option is to assume that this material comprises an additional pool of sequestered carbon. Of course, this latter approach assumes that the forest floor carbon pool somehow remains constant without continued additions to compensate for decomposition. Nevertheless, having identified these two options, the study only reports results using the latter option. As a result, the study concludes that in the Intensive scenario,

[21] Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2005*, Annex 3 p. 235, April 2007. Department of Energy, "Technical Guidelines for Voluntary Reporting of Greenhouse Gas Program: Chapter 1, Emission Inventories, Part I: Appendix." p. 220, June 2006

> harvest residue comprises a large incremental pool of sequestered carbon, totaling approximately 20-40 tons C/acre of additional sequestration by the end of the timeframe. (p. 39) In contrast, the report concludes that harvest residue adds no more than 5 tons C/acre under either the custodial or option C scenarios (Miller 2008).

- **The SPI paper fails to address carbon flows among carbon stores.**

The SPI paper fails to include any discussion of carbon flows from one carbon pool to another (i.e. forest floor, dead biomass, etc). As we have previously mentioned, these carbon pools do not remain constant with a change in management, but rather flows between them change. By failing to consider all components of an ecosystem and how carbon flows from one pool to another, as well as the feedback between pools, the SPI paper is not valid when applied to any ecosystem (personal communication Harmon 2008).

There are many global studies that do actually consider carbon flows; overall they show that logging at short intervals has a negative impact on carbon sequestration opportunities. Throughout China and Europe and across the globe, there is overwhelming evidence that longer intervals between harvest results in the storage of more carbon. In Finland, Liski et al. (2001) and Pussinen et al. (2002) found that longer rotation lengths stored more C in forests than shorter ones. This was also true in a larch dominated boreal forest in China (Jiang et al. 2002), western Canadian boreal forests (Seely et al. 2002), forests in the United Kingdom (Dewar and Cannell 1992, Thornley and Cannell 2000), and tropical plantations (Schroeder 1992). 6 cont'd

- **The SPI paper fails to adequately estimate greenhouse gas emissions from other sources.**

SPI does not correctly estimate greenhouse gas emissions from other sources. Miller (2008) states:

> GHG emissions from logging, transport, and landfills are ignored or assumed to be zero even though the Intensive management approach is likely to have significantly increased emissions in all of these categories compared to less intensive management approaches. (p. 26-30)

- **The SPI paper's numerous flaws and inadequacies all serve to subvert the fact that greenhouse gas emissions will increase with the intensive management approach.**

All of the above incorrect assumptions had a significant effect on the results that SPI chose to highlight and the conclusions that SPI chose to draw from them, thus calling their validity into question. For example, Krankina (2008) reports:

> The role of wood products and harvest residues is very important in supporting the conclusions of SPI Report: they account for more than a half of all carbon gains projected for Intensive management scenario. Yet, the estimated increase in carbon pools associated with wood products and harvest residues is the function of assuming that these

pools are at zero level at the start of the planning period and this assumption is clearly untrue.

Similarly, assumptions regarding carbon pools over time led to skewed conclusions (Krankina 2008):

> Change in carbon pools over time as reported on Figure 12.2 indicates that among the 3 comparable scenarios (i.e., excluding the theoretical "regulated scenario") the least intrusive "custodial management" results in greater forest carbon pools during the first 40 years of projection period for Upper San Antonio Creek watershed and during 60+ years in Canyon Creek watershed. When the total carbon pool is considered (including harvest residues and wood products; Figure 12.4) there is little difference among the three comparable scenarios during the first 40 years of projection period, but still custodial management results in slightly bigger carbon pools. Thus during the time period that is both policy-relevant and critical in terms of addressing climate change the custodial management gives better results than other management scenarios (!). This is a truly amazing result considering that the calculations were biased in favor of intensive management scenario as described above. Nevertheless the SPI Report concludes in summary on page 3 (bottom) that "Intensively managed and regulated forests show substantial increases in the forest carbon pool and total carbon pool yield when compared to the other more extensive Option C Selection and Custodial management approaches." This is also the main message of the press release based on SPI Report. These conclusions of the SPI Report are supported by calculation results only for the last 3-4 decades of the 100-year projection period, but they are untrue for a significant (and the most policy-relevant) portion of the time-interval examined. 6 cont'd

Miller (2008) highlights a similar shortcoming in the interpretation and presentation of the results as related to the timeframe of the study:

> The SPI analysis only provides a comparison of the sequestered carbon at the end of the 100-year study timeframe. However, the relevant comparison for climate policy is the average amount of sequestered carbon over the life of the project. Because the transition to the Intensive management approach initially results in a decrease in total carbon sequestered, it shows a net decrease in carbon sequestration relative to custodial management for the first 40 years of the analysis. (p. 40) Even under the favorable assumptions of this analysis, Intensive management does not result in an increase in average sequestration relative to custodial management for over 50 years. Overall, the average differences between the scenarios are much smaller than the reported differences at the end of the timeframe.

In conclusion, as detailed above the SPI paper contains substantial inconsistencies that "call into question both the quantitative conclusions and the value of those conclusions for the development of climate policy (Miller 2008)." Specifically, a review of the SPI paper shows that the overall conclusion drawn by SPI, that the Intensive Scenario is the best in terms of carbon sequestration, is inconsistent with the actual results of their calculations. In fact, their calculations show the opposite:

of the carbon emissions associated with clear-cut logging must be properly addressed, especially given the extensive amount of even-aged management that FGS wishes to conduct in the short term.

Because "a substantial portion of CO_2 emitted into the atmosphere is not removed by natural processes for millennia, each unit of CO_2 not emitted into the atmosphere avoids essentially permanent climate change on centennial time scales."[23] Again, that is why emissions occurring in the short term can not be explained away by pointing to sequestration that may occur in the future. Likewise, sequestration efforts become less meaningful the longer they are delayed, and "could result in substantially higher costs of stabilizing CO2 concentrations."[24] Put another way, it is undoubtedly preferable to remove a given ton of carbon in Year 1 rather than in Year 4, or Year 15, and so on, when it has wrought much more damage.[25]

The best available scientific evidence now indicates that a warming of 2°C is not "safe" and would not prevent dangerous interference with the climate system. In order to avoid dangerous anthropogenic interference (DAI) with the climate system, sound climate analysis must minimize the risk of severe and irreversible outcomes. Stabilizing greenhouse gas emissions at 350 ppm CO2eq, would reduce the mean probability of overshooting a 2°C temperature rise to 7 percent. A 350 ppm CO2eq stabilization level is also consistent with that proposed by leading climatologists, who have concluded that in order "to preserve a planet for future generations similar to that in which civilization developed and to which life on Earth is adapted . . . CO2 will need to be reduced from its current 385 ppm to at most 350 ppm." [26] While current CO2 levels exceed 350 ppm, a pathway toward 350 ppm is possible though the rapid phase-out of coal emissions, improved agricultural and forestry practices, and possible future capture of CO2 from biomass power plants.[27] Time is of the essence when addressing GHG emissions, and therefore, timing must be properly considered and accounted for when determining and addressing the emissions associated with FGS' logging.

7 cont'd

[23] 74 Fed. Reg. 49589

[24] 74 Fed. Reg. 49613

[25] Numerous studies support the conclusion that delay in GHG emission reductions causes increasing damages. *See, e.g.*, Hans J. Schellnhuber et. al, , *Solving the Climate Dilemma: The Budget Approach*, German Advisory Council on Global Change 15 (2009), *available at* http://www.wbgu.de/wbgu_sn2009_en.html (delay will result in almost unachievable reduction requirements); Sir Nicholas Stern, *Stern Review on the Economics of Climate Change* xvii, Cambridge University Press (2006), available at http://www.sternreview.org.uk (last visited November 15, 2009) ("[t]he social cost of carbon is likely to increase steadily over time because marginal damages increase with the stock of GHGs in the atmosphere, an that stock rises over time"); Myles Allen et al., *The Exit Strategy*, Nature Reports Vol 3 (May 2009), *available at* www.nature.com/reports/climatechange (later GHG emission reductions are more risky, expensive and disruptive than earlier reductions).

[26] Hansen, J. et al., *Target Atmospheric CO2: Where Should Humanity Aim?* Open Atmospheric Sci. J. 217, 226 (2008)

[27] *Id.*

> While the press release and the text of the report emphasize the advantages of intensive management scenario, the calculation results indicate that within the first 40-60 years of future projections the "custodial management" scenario leads to greater carbon storage than the intensive management scenario. Thus the conclusions of the report are not fully consistent with the results of calculations. This inconsistency is significant because the effects of carbon removal from the atmosphere are critical within the next decades and the time horizon of policy decisions tends to be even shorter (Krankina 2008).

The fact is that even with SPI's biased calculations, the results show the advantage of less intensive management. This fact implies that if done differently, a revised analysis that incorporated correct assumptions and better methodology would show even different results. For example:

6 cont'd

> Inclusion of soil carbon losses and process emissions, adoption of a more realistic wood product lifetime, proper accounting of harvest residues, and use of either one of the other LBM models would result in a dramatic reduction in the estimated climate benefits of Intensive management (Miller 2008).

Given these omissions, incorrect assumptions, and flaws in methodology, the SPI paper presents incorrect findings and conclusions and fails to provide useful policy guidance in reviewing or assessing the impact of logging on carbon stores and climate change. Consequently, FWS/NOAA should not defer to the SPI paper instead of conducting an adequate analysis of the carbon impacts of logging/clear-cutting. Because of the numerous errors and deficiencies of the SPI study, to defer to them would violate the lead agencies' NEPA duty to conduct an analysis that is substantively meaningful.

It is also important to note that GHG emissions are now more than ever understood to be at a tipping point.[22] The greenhouse gases emitted from logging/clear-cutting and associated activities are indubitably adding to the overall atmospheric concentration of greenhouse gases at a time that the global climate is potentially approaching critical tipping points. In addition, these emissions in the short term would contradict the efforts throughout the state (including in the forest sector) to reduce greenhouse gas emissions to 1990 levels by 2020. Furthermore, even if these emissions are expected to be offset by future forest growth, critical climate tipping points may be reached in the meantime, making the eventual sequestration irrelevant with regard to the ecological and climate impacts of the front-end emissions. This means that the temporal aspects

7

[22] It is well-accepted that there will be tipping points. (Meehl et al. at 775, 2007). Reaching any single tipping point can bring severe economic and ecologic consequences. But perhaps more worrisome is the linkage between tipping points such that reaching one tipping point may in turn trigger a second. An example is the connection between Arctic sea ice and permafrost melt rates; recent evidence indicates that the loss of Arctic sea ice, one tipping point, accelerates permafrost thaw, a second tipping point. (Lawrence et al. 2008). Permafrost refers to permanently frozen land; this surface stores large amounts of carbon. As permafrost thaws due to global warming, it releases carbon, often as methane. (Christensen et al. 2004). Methane has a global warming potential that is approximately 25 times greater than that of carbon dioxide over 100 years. The multiplicative effect of reaching several tipping points on a similar time scale would drastically increase the costs associated with climate change.

Finally, it should be properly recognized in the DEIS/PHCP that certain forest management actions, and timber harvest in particular, allow stored carbon to be released into the atmosphere. Thus, in addition to affecting habitat, these anthropogenic activities serve as a withdrawal from the forest carbon bank: carbon is removed from long-term storage and released to the atmosphere, exacerbating global warming and climate change.

Evidence shows that the carbon dioxide releases from logging can be substantial. In a letter to the California Air Resources Board regarding California Climate Action Registry Forest Protocols, Harmon (2007)[28] wrote:

> Timber harvest, clear cutting in particular, removes more carbon from the forest than any other disturbance (including fire). The result is that harvesting forests generally reduces carbon stores and results in a net release of carbon to the atmosphere.

The impacts of carbon release also occur from logging forests that have previously been logged. Mackey et al (2008)[29] state:

> The remaining intact natural forests constitute a significant standing stock of carbon that should be protected from carbon-emitting land-use activities. There is substantial potential for carbon sequestration in forest areas that have been logged commercially, if allowed to re-grow undisturbed by further intensive human land-use activities.

8

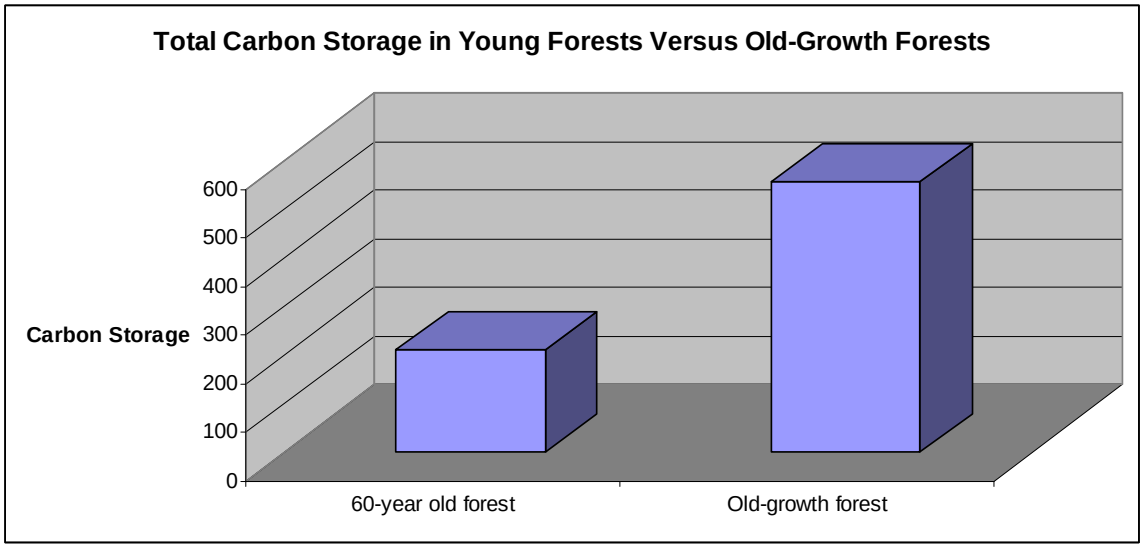
There are important distinctions between the carbon dynamics of natural forests and industrialized forests, especially monoculture plantations. Most of the biomass carbon in natural forests is stored in the larger, older trees; however, commercial logging removes most of these trees, leaving stands with much younger average ages. As a result, logged forests have a significantly reduced (more than 40 percent) long-term average standing stock of biomass carbon compared with an unlogged forest (Roxburgh et al. 2006).[30] In a study of temperate forests in Australia, Roxburgh et al (2006) found that "forests recovering from prior logging have the potential to store significant amounts of carbon, with current biomass stocks estimated to be approximately 60% of their predicted carrying capacity, a value similar to those reported for northern temperate forests."

[28] Harmon, Mark. 2007. Letter to California Air Resources Board. *Comment on Forest Protocols. Online at:* http://www.arb.ca.gov/lispub/comm/bccomdisp.php?listname= forestghg07&comment_num=22&virt_num=22.

[29] Mackey, Brendan G, Heather Keith, Sandra L. Berry and David B. Lindenmayer. 2008. Green carbon: the role of natural forests in carbon storage. Part 1, A green carbon account of Australia's south-eastern Eucalypt forest, and policy implications. The Fenner School of Environment & Society, The Australian National University. 48 pp.

[30] Roxburgh, S. H., Wood, S. W., Mackey, B. G., Woldendorp, G. and Gibbons, P. 2006, Assessing the carbon sequestration potential of managed forests: a case study from temperate Australia. *Journal of Applied Ecology* 43:1149–59.

The following chart shows the difference in carbon stores between an old-growth forest ecosystem and 60-year-old forest. Much of the difference—roughly 350 Mg C/hectare—is released through logging (Harmon et al. 1990): [31]



8 cont'd

Figure 2: Carbon storage in old-growth versus 60-year old forests. Harmon et al. 1990.
The following chart shows the carbon storage within the components of a young forest and old forest ecosystem.

	60-year-old forest	**Old-growth forest**
Foliage	5.5	6.2-7.0
Branches	7.0	26.3
Boles (wood and bark)	145	323
Roots (fine)	5.6	5.6
Woody debris and forest floor	10.9-26.1	123
Total	**203-218**	**555-556**

Figure 3: Above-ground (non-soil) carbon stores in old-growth forest vs. 60-year-old forest. Numbers in MG of carbon per hectare. Source: Harmon et al. 1990.

Luyssaert et al. (2008)[32] report that:

> In fact, young forests rather than old-growth forests are very often conspicuous sources of CO_2 because the creation of new forests (whether naturally or by humans) frequently follows disturbance to soil and the previous vegetation, resulting in a decomposition rate of coarse woody debris, litter and soil organic matter (measured as heterotrophic

[31] Harmon, Mark E., William K. Ferrell, and Jerry F. Franklin. 1990. Effects on Carbon Storage of Conversion of Old-Growth Forests to Young Forests. *Science* 247:699-702.

[32] Luyssaert, S., E. -Detlef Schulze, Annett Borner, Alexander Knohl, Dominik Hessenmoller, Beverly E. Law, Philippe Ciais and John Grace. 2008. Old-growth forests as global carbon sinks. *Nature* 455: 213-215.

> respiration) that exceeds the NPP (net primary production) of the regrowth. (Harmon et al. 1990; Janish and Harmon 2000; Wirth et al. 2002; Knohl et al. 2002; Kowalski, A. S. et al. 2004; Pregitzer and Euskirchen 2004; Irvine et al. 2007.)

Advocates for increased logging and/or use of wood products often argue that increased harvesting will result in more carbon being stored in forest and wood products. This is misleading because after logging, only a small fraction of the carbon stored in forest ecosystems is turned into forest products like paper and lumber (Harmon et al. 1996).[33] Their study states that "despite the large mass of carbon (1,692 Tg) harvested in Oregon and Washington, only a small fraction (23%) is currently stored in forest products." The majority of forest carbon is left behind in the forest to decompose naturally, burned on site, or transported to a mill where it is burned for fuel. Each of these outcomes of logging results in the release of carbon into the atmosphere.

Harmon et al. (1990) supported this with research showing that although the pool of forest products in use or in landfills will tend to increase as harvest levels increase, the majority of the harvest does not go into long term storage and the magnitude of this sink is not large relative to fossil emissions. Thus, industry advocates that argue that shorter rotations result in larger amounts of stored carbon in forest products fail to consider all of the facts. The carbon stored in forest products does not offset the losses in the forest itself because the forest ecosystem loses carbon a lot faster than the amount gained by forest products (Harmon and Krankina, 2008, personal communication). 8 cont'd

Furthermore, as discussed in Harmon (2009),[34] industry advocates often misstate the reality regarding use of wood products and substitution:

> We did not include the so-called substitution effects of using wood versus other more energy intensive materials for construction. As pointed out by Hennigar and others (2008), there is little consensus on the values to be used (that is, they vary 10-fold). The other issue is that these estimates represent maximal values that assume that all future buildings will be primarily constructed of materials other than wood. Thus, it counts the substitution effect over and over even when a wooden building is replaced by a wooden building. Although this assumption simplifies calculations, it does not necessarily lead to reliable estimates of the most likely substitution effect over time.
>
> [A]lmost all forest products suffer significant losses in manufacture and use (Harmon and others 1996). Those studies that have included forest products in the analysis, including ours, have found that forest products do not comprise a large fraction of the forest systems C stores (Dewar and Cannell 1992; Pussinen and others 2002; Seely and others 2002; Harmon and Marks 2002).

[33] Harmon, Mark E., Janice M. Harmon, William K. Ferrell, and David Brooks. 1996. Modeling carbon stores in Oregon and Washington forest products: 1900-1992. *Climatic Change* 33 (4):521-550.

[34] Harmon, Mark E., Adam Moreno, and James B. Domingo. 2009. Effects of Partial Harvest on the Carbon Stores in Douglas-fir/Western Hemlock Forests: A Simulation Study. *Ecosystems* 12: 777-791

Harmon (2009) "indicates that there are multiple methods to increase C stores in the forest sector including either increasing the time between harvests or reducing the fraction of trees harvested during each harvest."
In addition, Mackey et al. (2008) argue that to truly evaluate the benefits of wood products, it is necessary to account for all carbon losses and gains associated with logging and associated industrial processes if we are to look at this from a carbon-mitigation perspective. Comprehensive carbon accounting is needed that includes carbon uptake and emissions from all human activities associated with commercial logging and processing of the associated wood-based products, as well as carbon storage in products. Due to the immense amount of carbon spent harvesting trees, it is likely that the amount stored in wood products is minimal in mitigation terms.

"Grey carbon" from burning fossil fuels for must also be accounted for when addressing GHGs and logging. As stated by Mackey et al. (2008):

> When considering the carbon accounts associated with industrialized forests, it is [] necessary to include carbon emissions resulting from: a) forest management (for example, the construction and maintenance of roads, post-logging regeneration burns); b) harvesting (including use of machinery); c) transportation of logs, pulpwood and woodchips; and d) manufacturing.

Most of these energy inputs are sourced from fossil fuels and include site preparation (removal of existing vegetation), seed collection, growth trials to test the potential survival of species, seedling nursery inputs to grow seedlings for planting, planting of seedling trees, application of herbicides to suppress competition from weed species, measures to prevent animal species (vertebrates and invertebrates) from browsing on the seedlings, fertilizer application and continuing maintenance to suppress plant and animal pest species and fire (Mackey et al. 2008). 8 cont'd

Mackey et al. (2008) continues:

> As plantations are not self-sustaining systems, when the trees are harvested or die, energy inputs (again, sourced mostly from fossil fuels) are required to establish a new crop of trees. All of these fossil-fuel inputs, including those required for the manufacture of consumables such as fertilizer and pesticides, need to be taken into account, along with the biological processes, when assessing the carbon sequestration potential of tree plantations (and other agricultural crops). As plantations are eventually harvested, the fossil-fuel inputs, such as those required for road-making and upgrading, transport of the saw-logs for processing, the energy needs (and carbon dioxide emissions) for processing of timber or woodchips, and other industrial processes, should also be deducted from the gross pre-harvest carbon stock.

In addition to severe climate and carbon implications, the impacts of clear cutting/plantation forestry reach further to biodiversity and overall forest health. For instance, as discussed in Mackey et al. (2008), the difference between natural and managed/plantation forests is considerable when addressing a broad range of issues:

> Natural forests are more resilient to climate change and disturbances than plantations because of their genetic, taxonomic and functional biodiversity. This resilience includes regeneration after fire, resistance to and recovery from pests and diseases and adaptation to changes in radiation, temperature and water availability. Regrowth forests and plantations have reduced genetic diversity and structural complexity, and therefore reduced resilience to pests, diseases and changing climate conditions (Hooper and Vitousek 1997; Hooper et al. 2005, McCann 2007).

Moreover, as pointed out in Noss (2001):[35]

> Intensification of forestry activities is often promoted on the basis that young, actively growing trees will sequester carbon more rapidly than old-growth forests in which respiration may equal or even exceed photosynthesis (Birdsey 1992). Replacement of old forests with plantations is a "perverse incentive" of the Kyoto Protocol (Brown 1998; Dudley 1998). Simplistic carbon accounting, encouraged by the protocol, ignores the tremendous releases of carbon that occur when forests are disturbed by logging and related activities such as site preparation and vegetation management (Perry 1994; Schulze et al. 2000). It ignores the fate of woody debris and soil organic carbon during forest conversion (Cooper 1983; German Advisory Council on Global Change 1998). Typically, respiration from the decomposition of dead biomass in logged forests exceeds net primary production of the regrowth (Schulze et al. 2000). Considerable time is required - often hundreds of years - for regenerating forests to accumulate the carbon stocks characteristic of primary forests (Harmon et al. 1990). Over several rotations of growth and harvest, the mean carbon pool of intensively managed forests is only about 30% that of primary forests (Cooper 1983). From the standpoint of maintaining biodiversity during climate change, conversion of natural forests to plantations cannot be justified. Tree plantations around the world, especially exotic monocultures, have less biodiversity than natural forests in the same regions (Hunter 1990; Noss & Cooperrider 1994; Perry 1994). Plantations are often markedly less resistant to disturbances such as fire and more subject to pest outbreaks than natural forests (Schowalter 1989; Perry 1994). Pest outbreaks could increase in severity or change in distribution with changing climate (Williams & Liebhold 1995), amplifying the vulnerability of plantations.

8 cont'd

Noss (2001) also notes that clear-cutting causes significant habitat fragmentation, which has climate impacts of its own:

> Fragmentation may threaten biodiversity during climate change through several mechanisms, most notably edge effects and isolation of habitat patches. Intact forests maintain a microclimate that is often appreciably different from that in large openings. When a forest is fragmented by logging or other disturbance, sunlight and wind penetrate from forest edges and create strong microclimatic gradients up to several hundred meters wide, although they may vary in severity and depth among regions and forest types (Ranney et al. 1981; Franklin & Forman 1987; Chen & Franklin 1990; Laurance 1991, 2000; Chen et al. 1992; Baker & Dillon 2000). With progressive fragmentation of a

9

[35] Noss, Reed F.. 2001. Beyond Kyoto: Forest Management in a Time of Rapid Climate Change. *Conservation Biology*, Volume 15, No. 3, 578-590.

landscape, the ratio of edge to interior habitat increases, until the inertia characteristic of mature forests is broken. Fragmented forests will likely demonstrate less resistance and resilience to climate change than intact forests. Another potentially serious impact of fragmentation is its likely effect on species migration. By increasing the isolation of habitats, fragmentation is expected to interfere with the ability of species to track shifting climatic conditions over space and time. Weedy species, including many exotics, with high dispersal capacities may prosper under such conditions, whereas species with poor mobility or sensitive to dispersal barriers will fare poorly.

9 cont'd

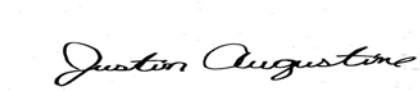
If the FWS/NOAA are to meet their NEPA obligations, they must independently and properly address the significant contribution of logging, and especially clear-cutting, to carbon emissions and not simply adopt the timber industry's position as the current documents do.

10

In sum, the DEIS and the PHCP do not adequately address climate change and are in violation fo the ESA and NEPA. Until they do, the HCP and its associated documents cannot be issued.

Please call me at (415) 436-9682 ext. 302 if you have any further questions about this request.

Sincerely,



Justin Augustine

Center for Biological Diversity

Response to Comment CBD-1

The commenter states that the HCP and Draft EIS fail to adequately address the issue of climate change, and summarizes 10 studies as "serious evidence of impacts."[1] The Services believe that global climate change was appropriately addressed in the HCP and in the Draft EIS, but additional text has been added in Chapter 5 of the Final EIS. See Theme Response 5 and the following responses to this comment letter.

Response to Comment CBD-2

The commenter states that a 50-year permit term is inappropriate given the referenced climate change studies, and suggests an alternative of a 10-year permit term with possible 10-year renewals. The Services do not recommend a 10-year permit term. Many of the adverse effects of the Proposed Action, especially incidental take of spotted owls, are expected to occur early in the permit term (i.e., by Year 10), and the Services want to make sure that there is a sufficiently long period after Year 10 to ensure that the conservation programs are achieving the desired habitat outcomes. For additional reasons for rejecting a shorter permit term, see Final EIS Section 2.5.2 and Theme Response 6.

Theme Response 5 provides an explanation for why it is not necessary to wait for additional climate change information to be made available before taking action on the permit applications. As described in Theme Response 5, the applicant would conduct detailed monitoring activities over the permit term to evaluate the effectiveness of the conservation programs and determine whether they are being compromised by factors such as climate change. The incidental take permits may be revoked if the provisions of the conservation programs are not being met.

Response to Comment CBD-3

The commenter states concerns regarding the lack of analysis in the HCP and Draft EIS regarding the impacts that climate change is already having on species and habitats in the plan area. Theme Responses 5 and 6.

Response to Comment CBD-4

The commenter provides additional evidence, including statements from the Services, that climate change needs to be seriously considered in the evaluation of a long-term ITP. The topics raised in this comment are addressed in Theme Responses 5 and 6.

Response to Comment CBD-5

The commenter provides additional statements that climate change needs to be seriously considered in an EIS. The topics raised in this comment are addressed in Theme Responses 5 and 6 and Theme Response 4 addresses the commenter's "hard look" concerns.

The comment also includes a discussion of the many ways that climate change can be discussed in a NEPA document. The Services agree that climate change is important to the context of the

[1] The commenter also forwarded most of these studies, and several other (25 in all), as attachments to their comments.

analysis, and has prepared new text that addresses climate change in the context of cumulative effects. The cumulative effects analysis in the Draft EIS includes a 10-page discussion of actions included in the analysis (Section 5.1), including a statement that each of the actions has affected regional environmental conditions. Climate change has been added to this section in the Final EIS. It is possible, as the commenter suggests, that climate change could be discussed throughout the affected environment section (Chapter 3). The Services agree that this is a reasonable suggestion, but have chosen to present the affected environment as the "today" conditions. This helps establish a firm baseline for the projection of impacts over 50 years for all alternatives. How that projection may change as a result of other factors – climate change included – is addressed in cumulative effects analysis.

Response to Comment CBD-6

The commenter suggests that reference to the study entitled "Carbon Sequestration in Californian Forests; Two Case Studies in Managed Watersheds" by James et al. (2007) is inappropriate for use in this EIS. Although unpublished, the Services find that the study is relevant to the Proposed Action. Although the Services have not verified the study's analytical conclusions, the publicly available study was independently reviewed by qualified scientists and reported results within the stated assumptions and limitations. The referenced study uniquely portrays carbon sequestration outcomes for a range of forest management scenarios through detailed biometrical analysis of actual forest inventory data. Although the referenced study does not evaluate the forest management alternatives considered in this EIS, it does show that a range of forest management regimes roughly similar to those proposed by FGS provide net carbon sequestration benefits, especially when taking into account the carbon stored in forest products and mill residue.

The Services interpreted the referenced study within the context of its stated assumptions; that is, to understand how forest management method, stand age, site quality, and inclusion of carbon stored in wood products and harvest residues affect the amount of forest carbon sequestered over a hundred-year planning period. The study's authors do not suggest that all carbon stocks and flows were precisely or comprehensively portrayed. The referenced study's carbon pool accounting appears to be consistent with forest carbon protocol proposed by the U.S. Department of Energy (Voluntary Reporting of Greenhouse Gases (1605(b)) Program, Technical Guidelines Part I: Forestry Emissions; 2006) and the Climate Action Reserve (Forest Project Protocol Version 3.1; 2009).

The specific comments on individual sections of the James et al. (2007) paper, and responses, are as follows.

The conclusions of the SPI paper are based on a comparison of incompatible management scenarios, and fail to include critical comparisons of alternatives.

The commenter suggests that the EIS analysis inappropriately omits analysis of two alternatives: "no management intervention" and "carbon sequestration prioritization." Neither of the two suggested forest management alternatives would satisfy the project purpose and need because both of these alternatives entail a reduction in timber harvest volume which would not allow the applicant to sustainably manage its timber operations over the long term. Therefore, it would not be appropriate for this EIS to analyze these additional forest management alternatives. In addition, none of the alternatives vary significantly in overall

amount and rate of timber harvest; therefore, there is not likely to be a measurable difference in the amount of carbon sequestration among alternatives.

The SPI paper's estimate of the carbon pool is incomplete, not scientifically valid, and not justified.

The Services recognize the scientific limits of the study to accurately predict climate effects of forest management, and specific impacts of climate change on species in the plan area remain somewhat speculative at this time. For this reason, the Services did not discuss the impacts of climate change in the Draft EIS, focusing instead on the potential impacts of the project on climate change (see Final EIS Section 4.5 and Theme Response 5). The Services must evaluate the potential for a project to influence and be influenced by climate change. However, a detailed comparison of carbon sequestration rates is not warranted because there is not likely to be a significant difference in impacts among the alternatives.

The SPI paper incorrectly assumes that dead biomass pools are in equilibrium when there is a change in forest management.

Neither past forest management by FGS nor forest management alternatives considered in this EIS are intended to build dead biomass pools; therefore, it seems reasonable to assume that dead biomass pools would not change significantly. It is common in forest carbon studies to assume that soil carbon levels remain constant, primarily due to the difficulty in obtaining accurate estimates for belowground carbon dynamics (U.S. Department of Energy 2006; Climate Action Reserve 2009).

The SPI paper inappropriately estimates the contribution of wood products to the carbon pool.

The commenter suggests that the referenced study is invalid because it uses incorrect rates of reuse, recycling, and decomposition for the long-term wood product carbon pool. The Services acknowledge that the long-term carbon dynamics of wood products are difficult to measure and vary by region, product type, available markets, and many other factors. For example, wood products from SPI lands probably exhibit a longer than average half-life because none are used in papermaking. However, about 80 percent of wood and 40 percent of paper decays very slowly under the anaerobic conditions in landfills (Ryan et al. 2010). Regardless of landfill decomposition rates, it is unlikely that more conservative decomposition rates would affect the carbon analysis in this EIS. Regarding assumptions for carbon fluxes in the forest floor, the Services cannot verify their accuracy; however, it seems reasonable to assume that more intensive and frequent tree harvesting would generate more harvest residue, which would either be collected for biofuel or alternative forest products, or deposited on the forest floor.

Although the commenter repeatedly raises concerns about potential bias of the referenced study toward "intensive management," there is no direct comparison between the "intensive management" of the referenced study and any of the forest management alternatives considered in this EIS because "intensive management" in the study was based upon converting 12.5 percent of the land base to plantations each decade and an 80-year plantation rotation age. This level of harvest intensity is not directly comparable to the harvest scenarios analyzed in this EIS. For example, harvest under the Proposed Action is based on longer rotations and a reduction in even-aged management.

The SPI paper fails to address carbon flows among carbon stores.

It is recognized that forest carbon stocks and fluxes are dynamic, and sensitive to forest management practices. Forest carbon accounting protocols focus on aboveground biomass and wood products pools because they are sensitive to forest management and relatively easy to measure, albeit with great labor and expense. For this reason, the Council on Environmental Quality concluded in their February 18, 2010 Draft NEPA Guidance on Consideration of Climate Change and Greenhouse Gas Emissions that "land management techniques, including changes in land use or land management, lack any established Federal protocol for assessing their effect on atmospheric carbon release and sequestration at a landscape scale." Consequently, the CEQ lacks guidance for assessing the climate change effects of forest management, and has stated that "it is not currently useful for the NEPA analysis to attempt to link specific climatological changes, or the environmental impacts thereof, to the particular project or emissions, as such direct linkage is difficult to isolate and to understand."

The commenter presents evidence that forests under longer rotation lengths store more carbon. However, the Services recognize that the rate of carbon sequestration declines as forests age. Therefore, it seems reasonable for forest management impact analyses to account for harvested carbon stored in forest products and mill residue. Focusing on a single carbon pool such as standing stocks only tells a part of the carbon emissions story. Instead, the referenced study describes fluxes among what the authors believe to be the largest carbon pools most influenced by forest management.

The SPI paper fails to adequately estimate greenhouse gases from other sources.

The commenter suggests that the referenced study is misleading because it does not account for carbon emissions from logging, transportation and landfills. The Services acknowledge that logging and transport contribute to cumulative effects on our changing climate; however, the differences in emissions from logging and transport among the EIS alternatives are relatively small and not great enough over the long-term to change the results of this EIS. The referenced study addresses emissions from landfills, although the commenter prefers different assumptions for rates of decomposition of wood products after use.

The SPI paper's numerous flaws and inadequacies all serve to subvert the fact that greenhouse gas emissions will increase with the intensive management approach.

The EIS looks at the potential impacts of the No Action Alternative, the Proposed Action, and Alternatives A and B (all of which are intensive management alternatives) on climate change. It is beyond the scope of this EIS to consider the value of the referenced paper to climate change policy or to assess the impact of logging in general on carbon stores and climate change. The referenced study should not be misconstrued as an impact analysis of the EIS alternatives. Rather, it provides insight to influences of management on forest carbon stocks and flows. However, a detailed comparison of carbon emissions is not warranted because there is not likely to be much difference in impacts among the alternatives.

Response to Comment CBD-7

The commenter raises concerns about the effects of logging associated with this project and the impacts as they relate to climate change. It is not the purpose of this EIS to determine the effect of logging within a 152,163 acre area on climate change. Under the No Action Alternative,

present forest management and its concomitant effects on carbon sequestration and emissions would project into the future. Forest management can provide a net sink of carbon rather than a net source of carbon emissions (e.g., Ryan et al. 2010), which is the premise of numerous forest projects credited with carbon offsets.

Response to Comment CBD-8

The commenter suggests that harvested timber is lost to the atmosphere as carbon dioxide; however, that premise clearly omits consideration of harvested carbon (1) stored as forest products-in-use; (2) substituted for fossil fuels and fossil fuel consuming non-wood products; and (3) stored in landfills. The Services concur that timber harvesting reduces the carbon pool in live tree biomass. However, the effect of timber harvesting on live tree biomass varies by individual timber harvest plan, as does forest carbon accretion after harvest. The Services are obligated to consider emissions attributable to the proposed action (issuance of an ITP), not those resulting from forest management in general.

The Services agree that there is little consensus on values for substitution effects of wood. Undoubtedly, differences among substitution effects are due to project-specific circumstances, including location, forest type, harvest and mill utilization and efficiency, and availability of non-wood alternatives. Also, it is beyond the scope of this EIS to evaluate forest management alternatives that increase carbon stores of the forest sector, maximize carbon sequestration potential, or mitigate for climate change – all of the alternatives under consideration would allow the applicant to continue to practice timber production and harvest on its property. Although the Services agree that forest management results in burning of fossil fuels (as discussed in the EIS), we have no data to suggest that the amounts of fossil fuel consumptions would vary significantly among the alternatives considered in this Final EIS.

Although forest management may affect a forest's resiliency after disturbance, we lack the data to make inferences for resiliency differences among the alternatives considered in this Final EIS, and to determine their ecological significance.

It is beyond the scope of this Final EIS to consider the effects of forest management on carbon storage in old-growth and primary forests. None of the forest management alternatives considered in this Final EIS have as their purpose the conversion of natural forest to plantation.

Response to Comment CBD-9

The commenter suggests that fragmented forests may be less resistant and resilient to climate change than unfragmented forests. It is important to note that the action alternatives in the Final EIS are anticipated to reduce habitat fragmentation and promote species migration. The Services do not have information to suggest that resistance or resilience to climate change will vary among alternatives, or data to imply that management-induced changes would be significant.

Response to Comment CBD-10

This commenter's concluding statement summarizes Comments 1 - 9 above. Please see responses to Comments 1 - 9.

Environmental Protection Agency

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

2/11/2010

Lisa Roberts
National Marine Fisheries Service
1655 Heindon Road
Arcata, CA 95521

Jennifer Jones
Fish and Wildlife Service
1829 South Oregon Street
Yreka, CA 96097

Subject: Draft Environmental Impact Statement for Authorization for Incidental Take and Implementation of Fruit Growers Supply Company's Multi-Species Habitat Conservation Plan (CEQ # 20090384)

Dear Ms. Roberts and Ms. Jones:

We appreciate the opportunity to review the subject Draft Environmental Impact Statement (DEIS) pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

EPA acknowledges the importance of protecting endangered species in the plan area and the difficulty of balancing species protection with the continued operation of commercial timberlands. We are pleased the Multiple Species Habitat Conservation Plan (MSHCP) includes protection for the Yreka phlox, which is not required by statute. We encourage the Services to involve the North Coast Regional Water Quality Control Board in preparation of the Final Environmental Impact Statement, because of its regulatory role in timber harvest. 1 Additionally, we suggest the FEIS require road decommissioning and maintenance, which are sediment controlling activities, to be pursued concurrent with, if not in advance of, timber harvest and other sediment loading activities. 2

We have rated the DEIS as Environmental Concerns – Insufficient Information (EC-2) (see enclosed "*Summary of Rating Definitions*"). We have enclosed our detailed concerns about the DEIS, which pertain to water resources, watershed indicators, timing of road decommissioning and maintenance, response to flooding, financially sustainable forest management, air quality, and climate change. 3

We appreciate the opportunity to review this DEIS. When the FEIS is released for public review, please send one (1) hard copy to the address above (mail code: CED-2). If you have any questions, please contact me at (415) 972-3521, or contact Tom Kelly, the lead reviewer for this project. Tom can be reached at (415) 972-3852 or kelly.thomasp@epa.gov.

Sincerely,

Kathleen M. Goforth, Manager
Environmental Review Office
Communities and Ecosystems Division

Enclosed: EPA Detailed Comments
EPA Ratings Summary

cc: Margaret Robinson, North Coast Regional Water Quality Control Board

EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) FOR AUTHORIZATION FOR INCIDENTAL TAKE AND IMPLEMENTATION OF FRUIT GROWERS SUPPLY COMPANY'S MULTI-SPECIES HABITAT CONSERVATION PLAN, SISKIYOU COUNTRY, CALIFORNIA, FEBRUARY, 2010

Water Resources

Modeling of Sediment Impacts

The DEIS provides only a general indication of sediment impacts. For example, the DEIS describes the impact of the Proposed Action, on page 4-15, by stating, "it is anticipated that sediment delivery due to the applicant's activities under the Proposed Action would be reduced over time compared to the No Action Alternative." EPA cannot evaluate the accuracy of that statement without more detailed soil maps and clearly mapped locations of timber harvest and roads. A significant reduction in sediment delivery is necessary to protect the Scott River, which is listed by EPA and the California State Water Resources Control Board for sediment impairment.

The North Coast Regional Water Quality Control Board (RWQCB) has stated[1], that "current sediment delivery (for the Scott River) is 167% of natural sediment delivery." Additionally, RWQCB and EPA have set a Total Maximum Daily Load (TMDL) for sediment into the Scott River, and its tributaries, of 125% of natural delivery, or 560 tons of sediment per square mile per year. This limit was set specifically for the protection of salmonid habitat. Therefore, the FEIS should provide modeling results capable of demonstrating full compliance with the TMDL allocation. If necessary, the FEIS should include additional mitigation measures to ensure compliance with the TMDL. 4

The RWQCB has also proposed to list Beaver Creek as impaired for sediment. So, similar precautions should be taken for Beaver Creek and its tributaries. Although the impairment status of Scott River is noted, the DEIS does not discuss the proposed impairment listing for Beaver Creek.

> **Recommendation:** The FEIS should quantitatively model the impacts of the project alternatives on sediment delivery for compliance with the TMDL allocation of 560 tons of sediment per square mile per year.

Stream and River Classes

The DEIS provides a waterbody protection system based on Class I (fish bearing), Class II (aquatic habitat), and Class III (no aquatic life present). This system is inconsistent 5

[1] Staff Report for the Action Plan for the Scott River Watershed Sediment and Temperature Total Maximum Daily Loads, December 7, 2005 (http://www.swrcb.ca.gov/northcoast/water_issues/programs/tmdls/scott_river/092005/sr/01titlepageandtableofcontents.pdf)

with an approach to reduce sediment and temperature in impaired waterbodies. The FEIS should consider impaired waterbodies and their tributaries as Class I waters, or provide an alternative procedure adequate to ensure protection of the impaired streams. 5 cont'd

Mass Wasting

Although the DEIS identifies potential hazards related to mass wasting, insufficient information is provided to either qualitatively or quantitatively determine the scale of this hazard to water quality, protected species, or other sensitive resources.

> **Recommendation:** The FEIS should contain a comprehensive analysis of the location of terrain with a moderate to high risk of mass wasting as it relates to the location of existing and planned roads and potential timber harvest locations. This analysis should describe the impact of the project on the potential for mass wasting. 6

Indicators of Watershed Condition

Although EPA has recommended numerical modeling of sediment delivery, road density and road crossings are valuable secondary indicators of watershed condition. However, the discussions on road density (Section 3.1.2) and stream crossings (3.3.3.3) are incomplete because they do not provide an analysis nor draw conclusions from the data.

NOAA guidance[2] on water quality indicators lists ">3 mi/mi², many valley bottom roads" as an indicator of a watershed that is not properly functioning. Similarly, a Forest Service evaluation[3], considered a road density greater than three miles per square mile as high. The road densities in the Scott Valley exceed the 3.0 miles per square mile in 11 of 13 drainages. Six of these drainages are more than double the 3.0 miles per square mile. For instance, the road density in Beaver Creek, on applicant lands is 6.8 miles per square mile. Based on such high road densities, EPA suggests the FEIS consider additional mitigation measures to reduce erosion from roads. The DEIS notes on page 2-20, "where the applicant's road-related activities have the highest potential for adverse effects on the aquatic Covered Species (Class A lands) would be prioritized for inventory and treatment within the first 10 years after issuance of the NMFS ITP." EPA seeks clarification that the road related activities include decommissioning, and suggests that decommissioning and maintenance proceed at a pace to minimize the impacts of timber harvest. 7

The NOAA guidance, Forest Service evaluation, and numerous Forest Service Motorized Travel Management Plans consider the effects of roads on watershed health. In these documents, a variety of additional factors beyond road density are considered, such as road stream crossings, estimated potential of rain-on-snow and thunderstorm events,

[2] Memo from William Stelle Jr. NWR Director to NMFS/NWR Staff, dated September 4, 1996 (http://www.nwr.noaa.gov/Publications/Reference-Documents/upload/matrix_1996.pdf)
[3] Herger-Feinstein Quincy Library Group Forest Recovery Act FEIS, Appendix N

vegetative recovery potential, land use disturbance, refugia and more. EPA suggests the FEIS evaluate these secondary indicators for a better analysis of watershed condition.

> **Recommendation:** The FEIS should draw conclusions about the impact of Fruit Growers Supply Company (FGS) roads on watershed health. Based on the high road density on FGS land, the FEIS should consider additional measures to reduce sediment loading; particularly where RWQCB and EPA have already listed a stream impaired for sediment toxicity, or are in the process of doing so. The FEIS should also draw conclusions about watershed condition based on stream crossings, and consider additional indicators of watershed health, such as estimated potential of rain-on-snow and thunderstorm events, vegetative recovery potential, land use disturbance, and refugia. 7 cont'd

Road Redundancy

Roads are one of the primary sources of sediment in forested areas, but the DEIS does not include a road map. The FEIS should include a road map and an evaluation of the potential to eliminate (and decommission) unnecessary roads. As implied on page 2-4, the current road inventory may not be complete, but the FEIS can provide the best available information and a brief discussion of uncertainties about the road network. 8

Secondary Effects of Pollutants

The FEIS should consider secondary effects of water pollutants. Although the Scott River is currently listed as impaired for sediment toxicity, sediment may also introduce nutrients and affect water temperature for which other rivers in the Klamath basin are listed (nutrients and temperature for the Klamath River and temperature for the Shasta River). The secondary effects of road crossings on streams also increase stream temperature. 9

Timing of Road Decommissioning and Maintenance

The MSHCP states, "[i]n general, FGS will finance the HCP with revenues from its ongoing operations. Accordingly, as harvesting is planned and carried out, it will provide funds needed to carry out the HCP's measures to mitigate the impacts of the take." Road maintenance and decommissioning should not be slowed or halted for lack of current operating funds. Companies frequently make up front investments in order to earn a profit later. 10

Appendix B contains a section on roads assessment, MSHCP page B-4, with procedures for identifying barriers to fish passage. This section contains no timetable beyond the ten year period to address Class I road maintenance.

Recommendation: The FEIS should require road decommissioning and maintenance, which are sediment controlling activities, to be pursued concurrent with, if not in advance of, timber harvest and other sediment loading activities. The FEIS should also include a specific timetable for removing barriers to fish passage. 10 cont'd

RWQCB Waste Discharge Requirements for Timber Harvest

In addition to approval from the California Department of Forestry and Fire Management, FGS will need Waste Discharge Requirements from the RWQCB for each timber harvest plan. The RWQCB is likely to require more robust sediment modeling and mitigation than is contained in the DEIS. In some cases, the RWQCB has used an MSHCP as a programmatic document from which to tier their Waste Discharge Requirements. 11

Recommendation: The FEIS should acknowledge the requirement to obtain Waste Discharge Requirements from the RWQCB prior to timber harvest. Additionally, NMFS should work with the RWQCB to incorporate into the FEIS and Record of Decision, measures necessary to receive Waste Discharge Requirements.

Response to Flooding

The DEIS states that a "flood of such magnitude (greater than a 100-year recurrence interval) . . . is not reasonably foreseeable during the life of the Plan, and would be considered an "unforeseen circumstance." The probability of a 100-year flood over fifty years is 50%, which is not unforeseen. Additionally, California specific climate change reports[4] have noted, "[w]hile some climate models predict an overall drying of California's climate, at the same time there are also continued risks from intense rainfall events that can generate more frequent and/or more extensive runoff and flooding." 12

Recommendation: The FEIS should recognize the 100-year flood as a reasonably foreseeable circumstance. Additionally, the FEIS should include a response plan for an exceedance of the 100-year flood.

Financially Sustainable Forest Management

The MSHCP states, on page 9-12, "[a]dditional investment or even more restrictive measures would provide only a marginal increase in the level of protection and could compromise FGS's ability to sustainably manage the forest stands on its ownership. 13

[4] For Example: 2009 Climate Change Adaptation Strategy, California Natural Resources Agency (http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF)

Thus the Aquatic Species Conservation Program represents the maximum extent practicable for FGS to implement on its ownership." A similar statement is contained in Section 9.2.2., Terrestrial Species Conservation Program (Northern Spotted Owl) on pages 9-15 and 9-16, although it clarifies that "restricting volume currently scheduled for harvest, FGS would be forced to harvest elsewhere. . . disrupt the planned harvest schedule . . . [and] reduce sustainable harvest level by reducing the size-class of the harvested stands."

The MSHCP and DEIS may present all mitigation (or restrictive) measures that, in the Service's opinion, provide more than a marginal increase in the level of protection; however, these documents have presented no information on FGS's ability to sustainably manage the forest stands on its ownership. Such information would include the costs associated with timber harvest, required mitigation, and other activities associated with forest management. While the DEIS discusses financial targets for timber harvest (e.g. page 2-18) no justification of the targets is provided. Without making this additional information available, the FEIS should not contend that additional (reasonable) mitigation will compromise FGS ability to sustainably manage the forest stands on its ownership. 13 cont'd

> **Recommendation:** FGS's ability to sustainably manage forest stands on its ownership should not be a basis for avoiding reasonable mitigation, unless the FEIS includes adequate supporting financial information.

Air Quality

The DEIS mentions serpentine soils in the project area, which are favored by the Yreka phlox. Since serpentenite contains asbestos in many areas of California, the DEIS should clarify whether serpentenite in the project area contains asbestos. If so, FGS should be aware that airborne dust from earth moving activities, logging and vehicle travel in serpentine soils may pose a health risk for workers or others in the immediate vicinity. This risk, and measures to reduce it, should be disclosed in the FEIS. 14

Climate Change

Although the DEIS considers the impact of the project on climate change, it does not consider the impact of climate change on the project. A number of studies specific to California have indicated the potential for significant environmental impacts as a result of changing temperatures and precipitation[5], e.g., "[w]arming may promote [forest] growth, while drier conditions or earlier snowmelt may reduce growth and harvest potential." Climate change effects and the need to adapt to climate change are emerging issues that should be considered in this action. A change in the timing and quantity of precipitation may also increase the vulnerability of native surface roads to erosion. 15

[5] The Impact of Climate Change on California Timberlands, A Paper from: California Climate Change Center (http://www.energy.ca.gov/2009publications/CEC-500-2009-045/CEC-500-2009-045-F.PDF)

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

Environmental Protection Agency

Response to Comment EPA-1

The commenter recommends that the North Coast RWQCB be involved in preparation of the Final EIS, because of its regulatory role in timber harvest. The RWQCB is involved in regulation of timber harvest as a Review Team agency in the State of California. As with other timber HCP's, the applicant has chosen not to integrate the RWQCB in this HCP process as they are focused on conservation programs for the Covered Species. Refer to EPA comment letter 26 and see Theme Response 8.

Response to Comment EPA-2

The commenter suggests the Final EIS require road decommissioning and maintenance, which are sediment controlling activities, be pursued concurrent with, if not in advance of, timber harvest and other sediment loading activities. Under the Proposed Action, the applicant may elect to decommission roads as part of the Road Inventory and Treatment Plan outlined in Chapter 5 of the HCP. The Services acknowledge that road decommissioning and maintenance activities are not required to be pursued in advance of timber harvest activities. In part this is because, typically, forest landowners fund road decommissioning and maintenance activities using funds from timber harvesting activities and it is efficient to address roads problems as they are used during timber operations. The option exists, however, for the applicant to decommission roads in advance of timber harvest as some timber operators are presently doing.

Response to Comment EPA-3

The commenter notes that they have rated the Draft EIS as Environmental Concerns - Insufficient Information (EC-2) with detailed concerns pertaining to water resources, watershed indicators, timing of road decommissioning and maintenance, response to flooding, financially sustainable forest management, air quality, and climate change. The Services acknowledge the rating and have responded to the comments about "insufficient information" in these responses and in the Final EIS. Also see responses to comments from the RWQCB.

Response to Comment EPA-4

The commenter states that the Draft EIS provides only a general indication of sediment impacts, and cites a sentence about sediment impacts (p. 4-15 of the Draft EIS) that is under the heading of "nutrients." Note that the more detailed discussion of sediment impacts is presented in Section 4.1 (Geology).

The commenter suggests that the Final EIS model the impacts of the project alternatives on sediment delivery for compliance with the TMDL for sediment (waste load allocation of 560 tons per square mile per year). It is the Service's understanding that the Regional Board enforces its TMDL requirements (including regional waste load allocations) through the THP review process (on a THP by THP basis). Currently, the applicant has not been assigned any waste load allocations specific to their operations by the RWQCB.

The Proposed Action is not intended to be a mechanism for implementing TMDLs (see Theme Response 8). Compliance with TMDLs and other water quality requirements would occur under all alternatives, including No Action. The Services do not believe that detailed sediment modeling was called for in this HCP since new road construction is expected to average less than 1 mile per year. This Road Management discussion is located in Section 6.1.3.1 Potential Impacts Due to Altered Hydrology and in Section 6.1.3.5 Potential Impacts Due to Changes in Sediment Inputs of the HCP.

The applicant has committed to drainage-level road erosion inventories in all drainages containing Class A and B designated lands within 15 years of ITP issuance and accelerated treatment of sites with the highest likelihood of contributing sediment to important salmonid streams. The inventories in drainages containing Class A designated lands will be completed within 10 years of ITP issuance following a prioritization schedule that calls for completion of inventories in the top 5 priority drainages within the first 5 years. Within these priority drainages, treatment of the sites leading to stabilization of at least 50 percent of the potential sediment delivery volume identified during the inventories will be completed within 5 years of the inventory. This discussion is located in Section 5.2.3.2 Road Assessment Process and Priority for Treatment in the HCP. Also see Theme Response 3, regarding the appropriate level of detail under NEPA for the Services to consider the action at hand.

In addition to the analysis under Section 4.1 (Geology), the commenter also should review the mass wasting assessment in the HCP (Appendix C), which shows that roads on the FGS ownership are not a major precursor for mass wasting in the Scott River basin. This mass wasting assessment was an important basis for the Aquatic Species Conservation Program (HCP Section 5.2).

The commenter also states that the RWQCB has proposed to list Beaver Creek as impaired for sediment, so similar precautions should be taken for sediment as in the Scott River. The most current Clean Water Act Section 303(d) List / 305(b) Report was submitted to the USEPA for final approval on October 13, 2010 and notes that Beaver Creek HSA 105.35 is included in the Klamath River HU, Middle HA, Iron Gate Dam to Scott River segment that is 303(d) listed for nutrients, organic enrichment/low dissolved oxygen, and water temperature. Text has been added to the Final EIS in Section 3.2.4 noting that the RWQCB has proposed that Beaver Creek be listed as impaired for these pollutants.

Response to Comment EPA-5

The commenter suggests the waterbody protection system in the Draft EIS, that is based on Class I, Class II, and Class III, is inconsistent with an approach to reduce sediment and temperature in impaired waterbodies. The Services feel that the classification system is consistent with the CFPRs, which helps facilitate implementation (e.g., foresters are inspecting consistent with forest rules), and doesn't obviate RWQCB participation in each THP approval. The Proposed Action is not intended to be a mechanism for implementing TMDLs or to subvert the California THP review process. This same approach is being used with other timber HCP's in the state without significant difficulty or controversy (see Theme Response 8).

Response to Comment EPA-6

The commenter suggests the Final EIS should contain a comprehensive analysis of the location of the terrain with a moderate to high risk of mass wasting as it relates to the location of existing and planned roads and potential timber harvest locations. This analysis should describe the impact of the project on the potential for mass wasting. The Services believe the mass wasting hazards on the Plan Area are adequately described in the "Mass Wasting Component" (Appendix C in the HCP). Mass wasting is also discussed in Chapters 3.1.1 Hillside Mass Wasting, 4.1 Geology, and 4.2 Water Resources of the Final EIS. Figure 9 of this appendix depicts the potential degree of instability on the applicant's lands. This mass wasting assessment was an important basis for the Aquatic Species Conservation Program (HCP Section 5.2). In response to this and other comments, maps showing road locations were added as Figures 3.1-2 through 3.1-4 of the Final EIS. The Final EIS incorporated information on landslide-prone terrain within the Plan Area in Chapter 3. Protection of unstable areas during timber operations are addressed in the aquatic conservation strategy outlined in the HCP.

Response to Comment EPA-7

The commenter suggests the Final EIS should consider additional measures to reduce sediment loading based on the high road density on the applicant's lands. This comment is similar to and builds upon prior comments related to impaired waterbodies. In watersheds where take of covered salmonids may be higher due to road-related sediment, the applicant will implement measures that reduce (minimize) the potential for take (e.g., bring the roads up to higher standards) minimizing the potential for sediment delivery over the course of the permit term. The applicant has committed to an aggressive schedule to inventory and treat known problems in their road system rather than on a THP-by-THP basis under the CFPRs. The road measures committed to under the Proposed Action are an additional measure to reduce sediment loading in impaired waterbodies. Because of the improvement relative to the No Action Alternative, the Services are not requiring additional measures. Also see Theme Response 8.

The commenter also recommends that the Final EIS draw conclusions on watershed condition based on stream crossings, and consider additional indicators of watershed health such as potential of rain-on-snow and thunderstorm events, vegetative recovery, land use disturbance, and refugia. The Services do not believe that such additional site-specific detail would have added value to the analysis – see Theme Response 4.

With regard to the requirements for road decommissioning, see Response to Comment EPA-2. Road decommissioning (permanently removing a road from a road network) is expected to occur as a normal part of timber operations and the large-scale road assessment process, but is not required under the Proposed Action.

Response to Comment EPA-8

The commenter notes that roads are one of the primary sources of sediment in forested areas, but the Draft EIS does not include a road map. The commenter suggests that the Final EIS provide more information regarding roads, including a road map. The HCP provides additional detail regarding roads (for example, see HCP Section 4.6, Roads in the Plan

Area). In response to this and other comments, maps showing road locations were added as Figures 3.1-2 through 3.1-4 of the Final EIS.

With regard to road decommissioning, see Responses to Comments EPA-2 and EPA-10.

Response to Comment EPA-9

The commenter suggests that the Final EIS should consider secondary effects of water pollutants and notes that sediment may introduce nutrients and affect water temperature for which other rivers in the Klamath Basin are listed. The Services agree that there can be secondary effects of water pollutants such as sediment and note that these secondary effects were adequately described and discussed for each alternative in Subsections 4.2.2 (Water Temperature) and 4.2.4 (Nutrients) of the Final EIS.

Response to Comment EPA-10

The commenter suggests that the Final EIS require road decommissioning and maintenance, which are sediment controlling activities, pursued concurrent with, if not in advance of, timber harvest and other sediment loading activities and that Final EIS include a specific timetable for removing barriers to fish passage. The Services acknowledge that road decommissioning activities are not required to be pursued in advance of timber harvest activities – see Response to Comment EPA-2. Road maintenance activities would continue to be an annual activity the applicant carries out on Covered lands and has been addressed in the Road Management Plan in the HCP.

A crossings inventory conducted by the applicant reports a total of 49 crossings of fish-bearing streams in the Plan Area; 40 crossings are within the range accessible by anadromous fish. Of the crossings within the range of anadromy, 16 are bridges; there are 13 culverts, nine fords, and two crossings are decommissioned. There are five crossings that form partial barriers, four that form temporal barriers, and none are considered total barriers. The Services note that during the road inventory process, culverts that are documented as impeding fish passage would be prioritized for replacement with a fish-passable solution. As such, the few remaining fish passage problems at watercourse crossings would be eliminated over time, most within the first 15 to 20 years following issuance of the ITPs (see Subsection 4.3.2.3 of the Final EIS).

Response to Comment EPA-11

The commenter notes the applicant will need to meet Waste Discharge Requirements from the RWQCB for each THP and recommends that the Final EIS acknowledge this requirement, and states that NMFS should work with RWQCB to incorporate measures necessary to receive WDRs into the FEIS and ROD. The Services agree that Waste Discharge Requirements will be enforced by the RWQCB and note that the RWQCB is already involved through their participation in the THP review and approval process.

However, the Proposed Action is not intended to be a mechanism for implementing TMDLs and other Regional Board requirements and the Services believe implementation of the HCP will continue to be viewed as lawful activities even if on some site-specific basis, the RWQCB requires additional sediment reduction planning based on circumstances found during THP review. The integration of different permit processes (e.g., Clean Water Act implementation) is at the discretion of the applicant.

Response to Comment EPA-12

The commenter is referring to HCP Section 8.2.1 (Changed Circumstances); there is no discussion of 100-year floods in the Draft EIS. The commenter states that the probability of a 100-year flood over the 50-year Permit Term is 50 percent, which is not unforeseen. The Services agree in principle, but emphasize that the point is to identify what may and what may not trigger a reconsideration of the conservation program. Most floods would not result in any changes to the conservation program, but the Services need to recognize that the applicant may not be able to meet its obligations if a very large flood substantially alters habitat status in a local area. With regard to the threshold, the Services are comfortable with using a flood with 100-year recurrence interval since the permit term is for 50 years. It should be noted that a large flood does not automatically absolve the applicant from meeting its obligations; the event would trigger a reconsideration of the necessary measures as described in HCP Section 8.2.2.

The commenter recommends that the Final EIS include a response plan for an exceedance of the 100-year flood. The Draft EIS (see Section 4.2.1) recognizes the potential for the conservation program to improve runoff attenuation compared to the No Action Alternative; for this reason, no additional measures are required.

Response to Comment EPA-13

The commenter cites text from the HCP, and suggests that the applicant's ability to sustainably manage forest stands on its ownership should not be a basis for avoiding reasonable mitigation without adequate supporting financial information. The reasonableness of the mitigation strategy was determined by the Services based on biology. In the case of owls, there would be little biological benefits from adding additional Conservation Support Areas (CSAs). Although no proprietary financial information is (or should be) disclosed in the HCP (or EIS), the individual agency staff members participating in the HCP reviewed information provided by the applicant which the agencies determined would adequately provide for implementation of HCP conservation measures (see Theme Response 1).

Response to Comment EPA-14

The commenter notes that there are serpentine soils in the project area and that sepentinite contains asbestos in many parts of California. The commenter suggests that the risk and measures to reduce airborne dust from serpentine soils containing asbestos, which may pose a health risk to workers or others in the area, should be disclosed in the Final EIS.

The most likely pathway for asbestos exposure is from quarrying serpentine rock to use as road material. The applicant reports that serpentine rock sources are rarely used as road material, and when serpentine is used it is tested for asbestos content and not used where it exceeds standards. In addition, the conservation measures for Yreka phlox are expected to reduce access to rocky areas where the plants are located (using equipment exclusion zones), which would further reduce the potential for asbestos exposure. For these reasons, the Services do not believe that additional disclosure or mitigation is necessary.

Response to Comment EPA-15

The commenter notes that the Draft EIS considered the impact of the project on climate change but did not consider the impact of climate change on the project. See Theme Response 5.

Klamath Riverkeeper

KLAMATH RIVERKEEPER®
An affiliate of the Waterkeepers Alliance
www.klamathriver.org

California
PO Box 751
Somes Bar, CA 95568
(530) 627-3311 (ph/fax)
(877) 307-3311 (toll free)

Oregon
PO Box 897
Ashland, OR 97520
(541) 488-3553 (ph)
(541) 488-6212 (fax)

February 11, 2010

Lisa Roberts,
National Marine Fisheries Service
Arcata Area Office
1655 Heindon Rd.
Arcata, CA 95521

Re: FGS HCP

Dear Ms. Roberts:

Please add to the record the following comments submitted by Klamath Riverkeeper regarding the Fruit Grower Supply (FGS) Company Habitat Conservation Plan (HCP) including incidental take coverage and the associated Draft Environmental Impact Statement (DEIS).

Klamath Riverkeeper (KRK) works with more than 100 members and hundreds more supporters to restore water quality and fisheries throughout the Klamath watershed, bringing vitality and abundance back to the river and its people.

As a group concerned primarily with healthy aquatic ecosystems, our comments will focus mainly on the impacts to water quality, coho, chinook and steelhead that would stem from FGS operations sanctioned under the proposed HCP.

The environmental consequences of a 50-year HCP including incidental take coverage across 152,163 acres for a company whose irresponsible logging has already jeopardized coho salmon, chinook salmon and steelhead trout in the watershed by clogging their habitat with more silt would be devastating to these imperiled species. 1

As KRK stated in scoping comments, the only supportable HCP is one that complies with both the federal and state Endangered Species Acts, as well as state and federal water quality protection laws and regulations.

Many of the concerns about compliance identified in scoping comments by KRK, KS Wild and Klamath River Tribes remain unanswered, and the HCP still does not comply with environmental laws and regulations. Therefore, approval of this proposed HCP to satisfy ESA requirements is illegal. Additionally, the DEIS falls short procedurally because it fails to fully analyze and disclose baseline conditions, site-specific consequences to the environment, cumulative impacts, environmental justice impacts and mitigation measures as NEPA requires. 2 3

Purpose

Section 1.2.1 states that the purpose of the HCP is "to enable the applicant to continue to operate its commercial timberlands on a long term basis while complying with the ESA." This is a disappointing statement that suggests that the responsible agencies NMFS and USFWS have interperted their role as enablers of timber harvest, rather than the protectors of endangered species as we believe Congress intended. 4

Alternatives

Further, Section 2.2.1 states that, under the Proposed Alternative "...the amount of timber harvest that would occur is likely to differ from the No Action Alternative, and the relative amount of land in the Plan Area subject to the different silvicultural practices would likely differ in order to meet the applicant's required harvest volume while meeting the terms and conditions of the permits..." 5

Meeting timber harvest volumes required by private corporations should not enter into the decision about whether and under what conditions to grant an HCP that is supposed to protect public resources and endangered species. Allowing it to do so by deeming the Proposed Alternative the Preferred Alternative is corrupt and backwards.

Section 2.2 also summarizes: "Under the Proposed Action, it is anticipated that there would be about a 10 percent decrease in acres harvested each decade, including as much as a 25 percent decrease in even-age regeneration harvest (clear cuts) compared to the No Action Alternative." 6

However, the DEIS does not contain or even refer to any models or calculations used to arrive at these numbers, much less how scientifically sound they are. What's more, it's not clear from reading the DEIS whether those decreases would do enough to prevent the extinction of already severely jeopardized coho and spring chinook salmon.

Water Quality

Section 2.2.2 of the DEIS states that "Under the Proposed Action, all logging roads and landings on the ownership or under the applicant's control within the Plan Area would be planned, located, constructed, reconstructed, used, and maintained in a manner that...minimizes damage to soil resources and fish and wildlife habitat; and prevents degradation of the quality and beneficial uses of water..." 7

However, this statement is misleading. It is well documented scientifically that construction, maintenance and use of landings and roads, as well as high density of roads, leads to increased sediment delivery, higher turbidity and altered hydrology. These problems have lead to degradation of water quality and beneficial uses and subsequent pollution rules, so it is difficult to see how, suddenly, timber harvest and associated roads will prevent further degradation. The DEIS offers no specific information or evidence for this claim.

Additionally, the DEIS states in multiple places that FGS will need to comply with TMDLs in order to comply with the Porter Cologne Act and Clean Water Act, but fails to detail how the HCP would accomplish this. 8

Perhaps this is at least partly because it's difficult to do so when the Scott River is at 167 % of natural sediment delivery. It is important to note that the Scott River TMDL is already behind its compliance schedule, and failure to identify specific compliance actions and timelines by polluters such as FGS only causes the watershed to fall further behind. 8 cont'd

Despite requirements for WDRs in the Scott River Action Plan (North Coast Basin Plan 4.63-00) the HCP does not require that waste discharge on FGS lands be monitored, reported and regulated. Additionally, failure to create and adhere to WDRs including strict monitoring and reporting requirements will make it difficult to establish TMDL compliance by FGS. 9

And while the mainstem Klamath TMDL has not yet formally been adopted, the document has been completed, publicly reviewed and revised already. Thus, the assertion found in Table 3.2-2 of the DEIS that "a public review draft of the TMDLs will be available in the spring of 2009 for a 90-day public review," is outdated and inaccurate. 10

Specifically, the mainstem Klamath TMDL will establish a thermal refugia protection policy that will create riparian buffer zones around designated creeks, including Beaver Creek, Bogus Creek, Dona Creek, Elliot Creek, Empire Creek, Lumgrey Creek and several Scott River tributaries. These thermal refugia buffers will restrict or prohibit activities that threaten fish that depend on these streams to survive. The DEIS contains no analysis of FGS timber harvest impacts to thermal refugia or what will be done to prevent, minimize or mitigate for those impacts, however. 11

And the portion of the December 2009 Draft TMDL implementation plan pertaining to timber operators on non-federal lands such as FGS acknowledges that salmonid protection rules established by the California Department of Fire and Forestry may not go far enough to meet water quality standards, and additional measures may be needed. Failure of the DEIS to discuss this constitutes a failure to protect endangered species to the maximum extent practicable, as required under NEPA. 12

Salmonids

Section 3 in the DEIS acknowledges the fact that there are large data gaps in the Plan Area, especially when it comes to salmonid presence, distribution and/or activity. Insufficient data is not the basis for complete analysis, much less a 50 year license to kill endangered species. How can the consequences to the environment be disclosed or fully analyzed with so little information about these fisheries? 13

Coho counts on the Scott River have gotten bleaker and bleaker, with just 81 coho found there this year[1]. These numbers indicate that the year class that should have returned to the Scott is functionally extinct. Yet the DEIS fails to disclose or analyze this information. 14

Chinook numbers in the mainstem Klamath River have been so depressed that the Pacific Fisheries Management Council has closed commercial and sport fishing for several years in a row, and are merely a shadow of their former abundance. Sadly, fish population trends or any 15

[1] Preliminary data from California Department of Fish and Game Klamath River Project 2009-2010 video fish counting survey

numeric analysis of how this HCP would impact those population trends is entirely absent from the DEIS. 15 cont'd

Environmental Justice

As NMFS and USFWS should know, the health of aquatic ecosystems is often interdependent with the health of upslope ecosystems, where destructive activities such as logging can negatively impact water quality and fisheries survival. In turn, water quality and fisheries survival have a direct impact on the health and survival of our local communities, economies and cultures in the Klamath basin.

Yet, the relationships between FGS logging in the Klamath watershed, water quality in the Klamath River, and declines in fisheries and fish-dependent communities, economies and cultures are instead largely ignored in the HCP and DEIS. 16

All analysis of environmental justice impacts or consequences from the Proposed Alternative are too narrowly focused on jobs and income levels inside Siskiyou County and are completely inadequate. Impacts and consequences suffered by communities outside the Plan Area cannot be excluded as they have been.

Thank you for considering these comments. We agree with the concerns documented by KS Wild et al in comments submitted on this HCP, and hereby incorporate them by reference.

Sincerely,

Erica Terence, Klamath Riverkeeper

Klamath River Keeper

Response to Comment KRK-1

The commenter states that "the environmental consequences of a 50-year HCP … for a company whose irresponsible logging has already jeopardized coho salmon, Chinook salmon and steelhead trout in the watershed by clogging their habitat with more silt would be devastating to these imperiled species."

When comparing the aquatic conservation strategy under the Proposed Action with the No Action Alternative, which is continued timber harvest within the plan area under the CFPRs, the Services have concluded that the Proposed Action would provide for greater conservation of salmonids and the habitat they depend upon (see Theme Response 9). With regard to the comment about "irresponsible logging," see Response to Comment KS Wild-48 included below.

"A review of the applicant's THP records with CDF demonstrated that out of approximately 700 THPs submitted by applicant in the past ten years, the applicant received 12 violations that were either correctable actions that were rectified or were actions that did not result in environmental damage, and therefore no enforcement actions needed to be taken. In comparison to other timber companies, the applicant has received about the same or fewer violations. In phone conversations with the KNF, the Services found that the applicant has had no timber sales and no trespasses with the Forest Service in at least ten years. "

Response to Comment KRK-2

The commenter states that the only supportable HCP is one that complies with both the federal and state Endangered Species Acts, as well as state and federal water quality protection laws and regulations. In addition, the commenter contends that many concerns identified in scoping comments by Klamath Riverkeeper, KS Wild and Klamath River tribes remain unanswered and the HCP does not comply with environmental laws and regulations.

The Services acknowledge that compliance with federal and state water quality protection laws is a consistent theme in comments received. Compliance with water quality protection laws is discussed in Theme Response-8. The Services also note that this comment is part of an "introductory" comment and that more detailed responses to the concerns raised during scoping are included below and in responses to comments received from others.

Response to Comment KRK-3

The commenter contends that the Draft EIS falls short procedurally because it fails to fully analyze and disclose baseline conditions, site-specific consequences to the environment, cumulative impacts, environmental justice impacts and mitigation measures as NEPA requires.

The Services acknowledge that several commenters state that the level of detail in the Draft EIS is insufficient to be considered a "hard look" as required by NEPA case law. The Services, however, believe that the level of detail is appropriate for the action at hand (see Theme Response 4). The Services also note that this comment is part of an "introductory" comment and that more detailed responses concerning these issues are included below and in responses to comments received from others.

Response to Comment KRK-4

The commenter refers to Section 1.2.1 of the Draft EIS that states that the purpose of the HCP is "to enable the applicant to continue to operate its commercial timberlands on a long term basis while complying with the ESA" and suggests that that the responsible agencies have interpreted their role as enablers of timber harvest, rather than the protectors of endangered species.

The Services acknowledge that the commenter is correct about the purpose of the HCP, which is the applicant's document in support of their application for an ITP. The Services' roles are to determine if the application meets the issuance criteria for incidental take permits (see Final EIS Section 1.3).

It is important to note that the purpose and need statement is in the Draft EIS is derived from the objectives of the section 10(a)(1)(b) regulations of the federal Endangered Species Act (ESA). This section of the ESA is specifically geared towards developing a process by which a private landowner, in this case FGS, can receive authorization from the Services to take listed and/or unlisted species in the conduct of otherwise lawful activities, in this case timber harvest (see Theme Response-3).

Response to Comment KRK-5

The commenter refers to Section 2.2.1 of the Draft EIS and states "Meeting timber harvest volumes required by private corporations should not enter into the decision about whether and under what conditions to grant an HCP that is supposed to protect public resources and endangered species."

The Services acknowledge the reference to Section 2.2.1 but note that the decision about whether and under what conditions to grant an ITP is governed by meeting the issuance criteria for granting of an ITP, not the applicant's desired level of timber harvest. In exchange for granting incidental take authorization, section 10(a)(1)(b) of the ESA requires landowners to develop, in coordination with the Services, a habitat conservation plan (HCP) that minimizes and mitigates to the maximum extent practicable the take authorization requested (see Theme Response 3). Also see Responses to Comments KS Wild-4, KS Wild-5, and KS Wild-23.

Response to Comment KRK-6

The commenter notes that the Draft EIS does not refer to any models or calculations used to arrive at the numbers presented under the Proposed Action, (i.e., that there would be a 10% decrease in acres harvested each decade, including as much as a 25% decrease in even-age regeneration harvest compared to the No Action Alternative) and contends that it is not clear in the Draft EIS whether those decreases would do enough to prevent the extinction of coho and spring Chinook salmon.

The Services acknowledge that several commenters state that the level of detail provided in the Draft EIS is insufficient to be considered a "hard look" as required by NEPA case law. The Services, however, believe that the level of detail is appropriate for the action at hand (see Theme Response 4).

Response to Comment KRK-7

The commenter refers to Section 2.2.2 of the Draft EIS that states "Under the Proposed Action, all logging roads and landings on the ownership or under the applicant's control within the Plan Area would be planned, located, constructed, reconstructed, used, and maintained in a manner that...minimizes damage to soil resources and fish and wildlife habitat; and prevents degradation of the quality and beneficial uses of water…" and assert that this statement is misleading because it is well documented that road and landing construction and use leads to increased sediment delivery, higher turbidity, and altered hydrology.

The Services acknowledge that use of the word "prevents" is inaccurate and have requested that their contractor (CH2M Hill) replace the term with the more accurate "minimizes."

Response to Comment KRK-8

The commenter notes that the Draft EIS states in multiple places that the applicant will need to comply with TMDLs in order to comply with the Porter Cologne Act and Clean Water Act, but fails to detail how the HCP would accomplish this.

The Services acknowledge that the applicant will be required to comply with TMDLs; however, the Proposed Action does not substitute for RWQCB requirements they may impose as part of the THP review process. Although the Services believe implementation of the Proposed Action would result in some level of improvement in water quality conditions in the Klamath Basin over time, we fully acknowledge that the applicant may have additional measures they will be required to implement as directed by the RWQCB in order to meet TMDLs (see Theme Response-8).

Response to Comment KRK-9

The commenter notes that the HCP does not require that waste discharge on FGS lands be monitored, reported and regulated, despite requirements for WDRs in the Scott River Action Plan (North Coast Basin Plan 4.63-00). The commenter asserts that failure to create and adhere to WDRs including strict monitoring and reporting requirements will make it difficult to establish TMDL compliance by the applicant.

The Services acknowledge that the HCP does not require that waste discharge on the applicant's lands be monitored, reported and regulated as this is within the regulatory control of the RWQCB. The Proposed Action is not intended to be a mechanism for meeting RWQCB requirements. The integration of different permit processes (e.g., Clean Water Act implementation) is at the discretion of the applicant - the agencies do not use the Section 10 process to achieve other regulatory purposes. The applicant will remain subject to compliance with RWQCB regulations and TMDL requirements (see Theme Response 8).

In addition, the Services note that the HCP conservation strategy, particularly the elements of the Road Management Plan – Operations Guide will serve to reduce sediment generation and delivery and will help the applicant to meet TMDL requirements that the RWQCB may impose. Implementation of the HCP would not interfere with or supersede this regulatory process.

Response to Comment KRK-10

The commenter notes that the information on the Klamath TMDL contained in Table 3.2-2 of the Draft EIS is outdated and no longer accurate.

The Services acknowledge that the information is now outdated and have requested their contractor (CH2M Hill) update the table. Table 3.2-2 has been updated to reflect the current status of the Klamath TMDL as follows:

> On March 24, 2010 the North Coast RWQCB adopted Resolution No. R1-2010-0025 and Resolution No. R1-2010-0026 amending the Water Quality Control Plan for the North Coast Region to include the "Action Plan for the Klamath River Total Maximum Daily Loads addressing Temperature, Dissolved Oxygen, Nutrient, and Microcystin Impairments in the Klamath River in California and the Lower Lost River Implementation Plan (Action Plan)"

Response to Comment KRK-11

The commenter notes that the mainstem Klamath TMDL will establish a thermal refugia protection policy that will create riparian buffer zones around designated creeks, including Beaver Creek, Bogus Creek, Dona Creek, Elliot Creek, Empire Creek, Lumgrey Creek and several Scott River tributaries. These thermal refugia buffers will restrict or prohibit activities that threaten fish that depend on these streams to survive. In addition, the commenter states that Draft EIS contains no analysis of FGS timber harvest impacts to thermal refugia or what will be done to prevent, minimize or mitigate for those impacts.

The Services acknowledge that the Draft DEIS does not include a discussion of thermal refugia in the mainstem Klamath or how the applicant's activities may affect these known refugia. However, the thermal refugia buffers referenced in the thermal refugia protection policy included in the TMDL are located at the mouth of the tributaries and extend upstream and downstream of the tributaries and some distance upstream in the tributaries. In general, the applicant's activities take place well above the confluence of these tributaries and the mainstem Klamath River, such that implementation of the HCP would have little direct effect on and would not interfere with protection of the thermal refugia identified in the Klamath TMDL. In addition, the Services discuss compliance with federal and state water quality protection laws in Theme Response 8.

Response to Comment KRK-12

The commenter states that it is a failure of the Draft EIS to not discuss that the CAL FIRE salmonid protections may not go far enough to meet water quality standards.

The Services note that the Draft EIS does disclose that CAL FIRE salmonid protection measures may not meet water quality standards. Under the cumulative effects analysis of the No Action Alternative (see p. 5-26 of the Draft EIS), the document states: "NMFS does not believe that the existing CFPRs, broadly applied on California's private timberlands, adequately protect SONCC coho salmon or provide for properly functioning habitat conditions."

Response to Comment KRK-13

The commenter refers to Section 3 in the Draft EIS acknowledging the fact that there are large data gaps in the Plan Area, especially when it comes to salmonid presence, distribution and/or activity. The commenter states that the Draft EIS cannot accurately disclose consequences to the environment with so little information about these fisheries.

The Services acknowledge that several commenters state that the level of detail provided in the Draft EIS is insufficient to be considered a "hard look" as required by NEPA case law. The Services, however, believe that the level of detail is appropriate for the action at hand (see Theme Response 4).

Response to Comment KRK-14

The commenter states that the Draft EIS fails to disclose or analyze the information that Coho counts on the Scott River have decreased appreciatively with just 81 coho found this year; indicating that this year class is functionally extinct.

The Services acknowledge the continuing declines in coho salmon populations, and additional information has been added to the EIS in response to this and similar comments (see Response to Comment Mass E-Mail 2). The Services recognize timber harvesting as one of the processes leading to listing this coho salmon population as a threatened under the ESA, as described in Chapter 5 (Cumulative Effects). As described in Theme Response 9, the Services anticipate that the Proposed Action can make a positive contribution compared to continued timber management under the No Action Alternative.

Response to Comment KRK-15

The commenter states Chinook numbers in the mainstem Klamath River have been so depressed that the Pacific Fisheries Management Council has closed commercial and sport fishing for several years in a row, and are merely a shadow of their former abundance. The commenter contends that a discussion of fish population trends or any numeric analysis of how this HCP would impact those population trends is entirely absent from the Draft EIS.

The Services acknowledge the continuing declines in Chinook salmon populations in the mainstem Klamath River and agree that the Draft EIS does not contain tables or figures illustrating population numbers for Chinook salmon (although the HCP does). The Services, however, believe that the level of detail is appropriate for the action at hand (see Theme Response 4).

The Services also note that very little habitat for Chinook salmon exists on the applicant's ownership. Chinook salmon are known to be present or suspected only in the Beaver drainage, where approximately 3.4 miles of the available Chinook salmon habitat is on applicant's ownership. When comparing the aquatic conservation strategy under the Proposed Action with the No Action Alternative, which is continued timber harvest within the plan area under the CFPRs, the Services have concluded that the Proposed Action would provide for greater conservation of salmonids and the habitat they depend upon (see Theme Response 9).

Response to Comment KRK-16

The commenter notes that water quality and fisheries survival have a direct impact on the health and survival of local communities, economies and cultures in the Klamath basin and contends that the relationships between the applicant's logging activities in the Klamath watershed, water quality in the Klamath River, and declines in fisheries and fish-dependent communities, economies and cultures are largely ignored in the HCP and Draft EIS. In addition, it is the commenter's contention that analysis of environmental justice impacts or consequences from the Proposed Alternative are too narrowly focused on jobs and income levels inside Siskiyou County and are completely inadequate.

The Services acknowledge that water quality and fisheries survival have a direct impact on the health and survival of local communities, economies and cultures in the Klamath Basin. When comparing the aquatic conservation strategy under the Proposed Action with the No Action Alternative, which is continued timber harvest within the plan area under the CFPRs, the Services have concluded that the Proposed Action would provide for greater conservation of salmonids and the habitat they depend upon (see Theme Response 9). This should contribute to a healthy "timber" economy in Siskiyou County and the region. The Services also believe that the level of detail provided in the Draft EIS is appropriate for the action at hand (see Theme Response 4).

In terms of the analysis of environmental justice effects, the Services recognize that only minor changes in fish habitat conditions under the Proposed Action such that very minor and speculative changes in fish population numbers may occur. The Services found no benefit in trying to extrapolate these changes to quantify "socioeconomic values." Also note that no comments were received from Native American Tribes or commercial fishing interests.

California Regional Water Quality Control Board

California Regional Water Quality Control Board
North Coast Region
Geoffrey Hales, Chairman

www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Linda S. Adams
Agency Secretary

Arnold Schwarzenegger
Governor

Ms. Lisa Roberts
National Marine Fisheries Service, Arcata Area Office
1655 Heindon Road
Arcata, CA 95521

Subject: Comments on the Draft Fruit Growers Supply Company's Multi-species Habitat Conservation Plan

Dear Ms. Roberts,

In response to the November 13, 2009, public notice in the Federal Register, Regional Water Board staff are submitting comments regarding Fruit Grower's Multi-species Habitat Conservation Plan (HCP). These comments are directed at ensuring long term compliance of the HCP with the existing General Waste Discharge Requirements, existing and forthcoming TMDLs, as well as the Water Quality Control Plan – North Coast Region, and other regulatory tools used by the Regional Water Board to address non-point source discharges. Please see the attached comments.

Sincerely,

California Regional Water Quality Control Board
North Coast Region
Geoffrey Hales, Chairman

www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Linda S. Adams
Agency Secretary

Arnold Schwarzenegger
Governor

February 11, 2010

To: Robert Klamt
Chief, Timber Harvest and Non-point Source Division

From: Maggie Robinson, Representing the review staff

Subject: Review and Comments on the proposed Fruit Growers Supply Multi-species Habitat Conservation Plan

General Comments

The North Coast Regional Water Quality Control Board staff (Regional Water Board staff) have completed reviewing the proposed Fruit Growers Supply Multi-species Habitat Conservation Plan (HCP). The following are general overall comments on the HCP followed by more specific comments keyed to the page in the HCP.

It should be recognized that the goals and objectives of the proposed HCP do not address protection of all beneficial uses of water and will not constitute full compliance with all water quality objectives in accordance with the Water Quality Control Plan for the North Coast Region, also known as the Basin Plan. We recognize that is not the purpose of the HCP but bring this to light for clarification purposes. Likewise, the proposed HCP does not adequately address the need to provide protection measures to watercourses from timber operations in 303(d) listed watersheds, particularly those watersheds listed for sediment and/or temperature impairments. Should Fruit Growers Supply desire the HCP be fully compliant with the Basin Plan and TMDLs, additional measures would need to be incorporated into the HCP. 1

With that in mind, most of our comments relate to the adequacy of the HCP with regard to meeting full compliance with water quality laws and regulations, and may not be pertinent to the HCP as an instrument for incidental take. Please do not misconstrue these comments to be criticism of the HCP, rather to point out the differences in the event Fruit Growers Supply should desire to use the HCP for or as a demonstraton of water quality compliance.

<u>Conflicts with Water Quality Objectives</u>

The HCP outlines measures that are more protective in streams with known fisheries than those where they are absent. The Water Quality Objectives defined in regional Water Quality Control Plans, however, apply to all waters of the state, regardless of whether species are known to be present. For instance, the Water Quality Objectives for Temperature states that natural receiving water temperatures shall not be altered, whereas the proposed protections in the HCP 2

are less protective for Class II streams than for Class I streams, and less protective for streams in the HCP-defined Class B lands than Class A lands.

The line of reasoning presented implies that streams where fish are not present only need water quality protections to protect fish in higher order reaches downstream. This approach is inconsistent with the Water Quality Objectives in regional Water Quality Control Plans. 2 cont'd

Winter Road Operations

As written, the proposed HCP would allow the discharge of visibly turbid water to a watercourse, in violation of existing Basin Plan prohibitions and water quality standards. In other words, the thresholds defined as indications of when "saturated soil conditions" exist do not give adequate warning of when a Basin Plan violation may be imminent. Instead, they represent conditions where a violation has already occurred. 3

Site-specific or nonstandard measures

The proposed HCP would allow for site-specific management and alternative practices from those required by the FPRs. While we agree, in concept, that an alternative approach may provide a superior method for determining appropriate protection measures than the standard rules, it is unclear the scope and rigor of analysis required in order to justify the proposed non-standard practices. Furthermore, the HCP does not require approval of Regional Water Board staff for those projects that may have an impact on water quality, but does require it from CAL FIRE and DFG. We recommend that the HCP contain language ensuring that the appropriate Regional Water Quality Control Board is involved in the review of non-standard practices. We also recommend that clear direction be given on where and when such an approach may be used and the level of analysis required in order to make implementation clear, effective, and enforceable. 4 5

Specific Comments

The following relate specifically to Appendix B, Road Management Plan—Operations Guide (RMPOG). Each comment is referenced to the corresponding page number.

In general, Regional Water Board staff find the RMPOG to be unclear and ambiguous. It is a vitally important piece of the HCP, and staff recommend that substantial revisions with much more specificity be undertaken. The RMPOG contains numerous citations and paraphrases of the FPRs. However, some of the citations and paraphrases are substantially different than what appears in the 2010 edition of the FPRs. One can only reasonably assume that previous versions of the rules are being cited. The RMPOG should be much clearer as to which year's rules are being referenced. Additionally, the 2010 rules are in the process of being revised -- in particular, those rules pertaining to roads and landings. Given that the HCP is heavily relying on the FPRs in the RMPOG, and that the HCP is slated for a 50-year life span, the best available science and the most protective road prescriptions and guidelines should be used. 6 7

1. **B-5.** First sentence. Change "[e]xposed, erodible fill along new road construction that drains towards a stream shall be stabilized with slash or mulch," to include specifications for percent coverage and depth. 8

2. B-8. (5) States, "[i]n Class A lands, each road approach to a watercourse crossing shall be treated to create and maintain a stable operating surface and to avoid the generation of fines during use, in accordance with subsection (A) through (F) below."

   The discharge of road-related fines into waters of the State in deleterious amounts constitutes a Basin Plan violation. For those watercourses that are 303(d)-listed as being impaired by excessive amounts of sediment, any amount of discharge of road fines to those watercourses can be considered a deleterious amount. In order to ensure Basin Plan compliance, and to avoid violations of Porter-Cologne, RWB staff advise that this section be revised to include all lands, regardless of classification, that contain watercourses that are 303(d)-listed for sediment and/or turbidity or that contain watercourses that drain to ones that are 303(d)-listed for sediment and/or turbidity. 9

3. **B-11.** Under the first bullet point the last sentence states, "if use of the ford would result in substantial downstream turbidity or sedimentation…". The generation and transportation of road-related fines to waters of the State in deleterious amounts constitutes a Basin Plan violation. For those watercourses that are 303(d)-listed as being impaired by excessive amounts of sediment, any amount of discharge of road fines to those watercourses can be considered a deleterious amount. In order to avoid Basin Plan violations, RWB staff advise that this language be revised to ensure that for crossings on watercourses that are 303(d)-listed for sediment and/or turbidity or that contain watercourses that drain to ones that are 303(d)-listed for sediment and/or turbidity, fords shall not be used if use of the ford would result in downstream turbidity or sedimentation. 10

4. **B-11.** Bullet point 4 states that corduroy crossings are generally used to skid over a wet area. Please define "wet area", and ensure that no wet areas with beneficial uses are to be skidded through or across without Regional Water Board staff approval. 11

5. **B-12.** The second sentence states that "[p]it run 6 inch minus" will be used. This needs to be better defined with respect to the percent fines and sand-sized material that will be included in the rocking material. 12

6. **B-12.** Nowhere in the discussion regarding permanent culvert crossing installation is the use of critical dips discussed. Nor is there discussion regarding sizing culverts to be able to pass the 100-year storm flows and associated debris. Finally, in the event that FGS and DFG are unable to agree on crossing design, a listed set of default crossing specifications are to be used. These specifications include the requirement that the culvert diameter shall generally be 1.5 times wider than the active channel, and that the culvert shall be set at 0 percent slope. 13

Please include the citation for the “generally 1.5 times wider” standard. With respect to the “0 percent slope” measure, RWB staff are viewing it as a typo that will be corrected before the final draft is released. 13 cont'd

7. **B-14.** The table outlining risk, indicators, and armoring of culverts lists “high” risk culverts as being “not sized for 100-year flows, with excessive fill, not aligned, not accessible in winter, with a steep gradient watercourse”. The prescription for these is to “armor all fill underlain with geotextile fabric”. 14

   If this table refers to existing culverts, why is there no discussion regarding the removal and upgrading of them? If it refers to new culvert installations, why are undersized culverts being proposed?

8. **B-16.** The fourth paragraph states that upon completion of use, crossings on temporary roads, as defined in the FPRs, will be isolated from potential subsequent traffic by strategic placement and construction of effective barriers.

   The FPRs require the removal of temporary crossings and blockage of the road to standard production 4-wheel drive vehicles prior to October 15 of the year of use. Please define “potential subsequent traffic” and please explain how “blocking off” a temporary crossing is more protective of a watercourse than removing it and blocking off the road itself. 15

9. **B-16.** Use of rocked fords on Class I watercourses. Although this seems like a NMFS/DFG question, RWB staff wonder if Class I fords should ever be used for hauling, whether permanent or not? 16

10. **B-17.** Vented Fords and Rocked Dips. The RMPOG contains no guidelines as to when these types of installations are to be used. 17

11. **B-17.** The last paragraph refers to “subsection (A) through (F) below.” There is no following subsection (A) through (F). Please clarify. 18

12. **B-20.** FGS may conduct road upgrading during the winter period if soils are not saturated. Saturated soil conditions may be evidenced by, “…soil displacement in amounts that cause a visible increase in turbidity in an adjacent Class I, II, III watercourse.” By the time there is a visible increase in turbidity in an adjacent Class I, II, or III watercourse the project will already be in violation of the Basin Plan prohibitions. RWB staff advise that the indicators in this section be revised to that project operators know when to cease work before a Basin Plan violation occurs. 19

13. **B-22.** The RMPOG states that in Class A lands all roads in Class I WLPZs shall exhibit a rocked or paved stable operating surface. In order to provide protection to all the beneficial uses of water in all watercourses, and to prevent the generation of fines upstream that may be transported to downstream Class I watercourses, all WLPZ roads should exhibit a rocked or paved stable operating surface. 20

14. **B-25.** There are numerous inconsistencies in the narratives regarding inspecting, maintaining and monitoring timelines. The table at the top of the page states that maintenance will occur either every 3 or every 5 years, depending on which watershed it is. The following narrative states that roads are to be inspected every year, but crossings only every two years. Minor maintenance will be performed at the time it's documented, or that season. Major maintenance issues will be documented, prioritized, and scheduled. Inspections will only be done on roads that are accessible by truck. 21

    Regional Water Board staff recommend that a comprehensive inspection, maintenance, and monitoring plan be included in the HCP. Additionally, provisions to ensure that roads not passable to trucks are inspected. Such provisions may include, for example, walking as a means to access the roads.

15. **B-27.** The RMPOG refers to pages X-53 through X59 in the California Salmonid Stream Habitat Restoration Manual, 1998, 3rd edition. Please use the most current edition available as methodologies, science, and even conventional wisdom may have changed substantially during the intervening 12 years. 22

16. **B-29.** Road-related Unstable Areas. The RMPOG devotes all of 4 lines to road-related unstable areas. Given that the Scott river TMDL identified the need to reduce sediment loading from road-related landsliding by 42%, RWB staff believe a much more thorough discussion regarding road-related unstable areas is warranted. 23

17. **B-29.** Erosion Control. This section contains only a cursory discussion of the types of and application guidelines for use of erosion control measures. For such an important topic, there is little information provided. Please revise to include more detail. 24

18. **B-30.** The discussion regarding "Stream Channel Reconstruction" is minimal and fails to include a provision requiring agency review and approval before doing any reconstruction work. Please revise. 25

19. **B-31.** The discussion regarding "Obstruction and Sediment Removal" limits activities to within 30 feet upstream and downstream of the edge of the facility. This distance is an arbitrary number, and no explanation as to how this distance was arrived at is provided. This section should be rewritten to ensure that obstruction and sediment removal will occur as far upstream and down stream as is feasible and necessary to prevent/remediate deleterious impacts to the beneficial uses of waters of the State. 26

California Regional Water Quality Control Board

Response to Comment RWQCB-1

The commenter accurately recognizes that the goals and objectives of the Proposed Action do not fully address protection of all beneficial uses of water and that this is not the purpose of an HCP. The Services acknowledge that the aquatic conservation measures contained in the HCP may not be fully compliant with the Basin Plan and TMDLs. However, the Proposed Action is not intended to be a mechanism for implementing TMDLs. The integration of different permit processes (e.g., Clean Water Act implementation) is at the discretion of the applicant - the agencies do not use the Section 10 process to achieve other regulatory purposes. The applicant will remain subject to compliance with the Basin Plan and any TMDLs that are developed over the Permit Term. See Theme Response 8.

Response to Comment RWQCB-2

The commenter notes that the Proposed Action includes measures that are more protective in streams with known fisheries than those where they are absent. While it is true that, in terms of the level of protection against water temperature increases, the Proposed Action treats Class I streams differently than Class II streams and Class A lands differently than Class B lands, this is because a high priority is to improve conditions for coho salmon, with Chinook and steelhead improvement having a lower priority.

The Proposed Action is not intended to be a mechanism for meeting the Water Quality Objectives in regional Water Quality Control Plans. The integration of different permit processes (e.g., Clean Water Act implementation) is at the discretion of the applicant - the agencies do not use the Section 10 process to achieve other regulatory purposes. The applicant will remain subject to compliance with regional Water Quality Control Plans. See Theme Response 8.

Response to Comment RWQCB-3

The commenter suggests the Proposed Action would allow the discharge of visibly turbid water to a watercourse due to winter road operations, violating existing Basin Plan prohibitions and water quality standards. The Services do not agree with this assessment as the text in the last paragraph on page B-4 of the HCP states:

> "Routine use of logging roads, tractor roads, or landings shall not take place at any location where saturated soil conditions exist, where a stable logging road or landing operating surface does not exist, or when visibly turbid water from the road, landing, or skid trail surface or inside ditch may reach a watercourse or lake."

This is consistent with current CFPRs [14 CCR 943.6] and would not allow winter road operations that would result in the discharge of visibly turbid water to a watercourse.

Response to Comment RWQCB-4

The commenter correctly notes that the Proposed Action would allow for site-specific management and alternative practices that are different from those required by the CFPRs, and states that the scope and rigor of analysis of these site-specific and alternative practices

is unclear compared to the CFPRs. The commenter recommends that the HCP contain language ensuring that the appropriate RWQCB is involved in the review of these non-standard practices.

The Services do not believe that any change is necessary because timber harvest under the Proposed Action would still occur under the CFPRs, including submittal of THPs. The Regional Board will remain a reviewing agency of all THPs, and the THP approval process will be unchanged. With regard to the differences between the Proposed Action and the CFPRs, see Theme Response 9.

Response to Comment RWQCB-5

The commenter notes that the proposed HCP would allow for site-specific management and alternative practices from those required by the CFPRs and recommends that clear direction be given on where and when such an approach may be used and the level of analysis required in order to make implementation clear, effective, and enforceable.

The Services do not believe that any change is necessary as timber harvest under the HCP will still occur under CFPRs with submittal of THPs. The Regional Board will remain a reviewing agency of THPs and the THP approval process will be unchanged.

Response to Comment RWQCB-6

The commenter states that the Road Management Plan—Operations Guide (Appendix B of the HCP) is unclear and ambiguous and recommends that substantial revisions with much more specificity be undertaken. The commenter notes that some of the citations and paraphrases are substantially different than what appears in the 2010 edition of the CFPRs and assumes that previous versions of the rules are being cited.

The Services agree that the Road Management Plan contains numerous citations and paraphrases of the CFPRs but do not believe that any change is necessary because the Road Management Plan is based on protective measures for coho developed with DFG. Although the measures are quite similar to the CFPRs, the Services expect they would be applied to more streams under the Proposed Action than under No Action. Also see Theme Response 9.

Response to Comment RWQCB-7

The commenter notes that the 2010 CFPRs are in the process of being revised, in particular, those pertaining to roads and landings and recommends using the prescriptions and guidelines from the most recent version of the CFPRs.

The Services agree that the Road Management Plan contains numerous citations and paraphrases of the CFPRs and that the CFPRs are continually in the process of being revised, but do not believe that any change is necessary. The Proposed Action will continue to use the negotiated conservation strategy (i.e., 2009 CFPRs plus additional coho measures). Also see Theme Response 9.

Response to Comment RWQCB-8

The commenter requests that the first sentence on page B-5 "[e]xposed, erodible fill along new road construction that drains towards a stream shall be stabilized with slash or mulch,"

be changed to include specifications for percent coverage and depth. The Services do not believe that any change is necessary as the requested specifications are included on page B-30 of the HCP under "Erosion Control" as follows:

> "Mulches shall be certified weed-free. Mulches or its equivalent (e.g. compacted slash) shall be applied so that not less than 90% of the disturbed areas are covered. All mulches (except hydro-mulch) shall be applied in a layer not less than two inches deep. In areas susceptible to high winds and/or cattle grazing, all straw mulches shall be kneaded or tracked-in with track marks parallel to the contour. Seeding will not be utilized if possible. In the event it is deemed necessary, seed shall consist of a mix of dry land orchard grass and tetrapoid rye, or other "native" grass seed mix found to be effective for soil or project conditions applied at a rate of not less than 25 pounds per acre."

Response to Comment RWQCB-9

The commenter notes that number (5) on page B-8 states, "[i]n Class A lands, each road approach to a watercourse crossing shall be treated to create and maintain a stable operating surface and to avoid the generation of fines during use, in accordance with subsection (A) through (F) below." In order to ensure Basin Plan compliance, and to avoid violations of the Porter-Cologne Act, the commenter recommends that this section be revised to include all lands, regardless of classification, that contain watercourses that are 303(d)-listed for sediment and/or turbidity.

The Services do not believe that any change is necessary because if the applicant follows the CFPRs and other applicable requirements (e.g., TMDLs and other Regional Board recommendations) on a THP-by-THP basis, then it is not facilitating the violation of these requirements. Also see Theme Response 8.

Response to Comment RWQCB-10

The commenter notes that on page B-11 in Appendix B of the HCP, the last sentence of the first bullet point states, "if use of the ford would result in substantial downstream turbidity or sedimentation…" The commenter states that generation and transportation of road-related fines to waters of the State in deleterious amounts constitutes a Basin Plan violation. For those watercourses that are 303(d)-listed as being impaired by excessive amounts of sediment, any amount of discharge of road fines to those watercourses can be considered a deleterious amount. In order to ensure Basin Plan compliance, the commenter recommends that language under the first bullet point be revised to ensure that for crossings on watercourses that are 303(d)-listed for sediment and/or turbidity, fords shall not be used if use of the ford would result in downstream turbidity or sedimentation.

The Services do not believe that any change is necessary because rocked fords will not be used if using the ford would result in a visible increase in surface erosion or turbidity. The text on the use of rocked fords on page B-16 states that:

> "If using the ford would result in a visible increase in surface erosion or turbidity, another crossing type shall be utilized or a temporary crossing shall be installed over the ford for hauling."

The Services also believe that if the applicant follows the CFPRs and other applicable requirements (e.g., TMDLs and other Regional Board recommendations) on a THP-by-THP basis, then it is not facilitating the violation of the Basin Plan. Also see Theme Response 8.

Response to Comment RWQCB-11

The commenter notes a lack of definition about what constitutes a "wet area." The Services have requested that the applicant add a definition of 'wet area" to the Definitions section. The new text (see p. B-2 in Appendix B of the HCP) states:

> "Wet area" means an area which is moist on the surface throughout most of the year and/or support aquatic vegetation, grasses, and forbs as their principal vegetative cover."

Response to Comment RWQCB-12

The commenter notes the need for a better definition of "[pit] run 6 inch minus" rock with respect to the percent fines and sand-sized material that will be included in the rocking material to prevent erosion. The Services acknowledge that the text is not clear, and have requested that the applicant better define how pit run rock will be used to prevent erosion. The new text (see p. B-12 in Appendix B of the HCP) states:

> "Application of pit run rock will be adequate to form a hardened running surface and applied in a manner that will prevent runoff of fine sediments to adjacent watercourses in quantities deleterious to aquatic organisms."

Response to Comment RWQCB-13

The commenter states that "Nowhere in the discussion regarding permanent culvert crossing installation is the use of critical dips discussed. Nor is there discussion regarding sizing culverts to be able to pass the 100-year storm flows and associated debris." The Services do not agree with this assessment as critical dips are discussed on pages B-14 and B-24 of HCP Appendix B and culvert sizing is discussed on B-13 of HCP Appendix B. The text on critical dips states:

> "All permanent culvert crossings will include an overflow dip/critical dip (low point in the road near the crossing to carry water overflow) or other feature designed to minimize watercourse diversion potential." (Page B-14) and
>
> "If there meets the crossing fill to provide for a "fail-safe" drainage design." (Page B-24).

The text on culvert sizing states:

> "Any permanent culvert at new Class II and III watercourse crossings will be sized to accommodate 100-year peak flows and debris and sediment loads." (Page B-13)

The commenter also notes the default culvert specifications that specify a minimum culvert diameter of generally 1.5 times the width of the active channel and that the culvert be set to a 0 percent slope and requests a citation for the "generally 1.5 times wider" standard and considers the 0 percent slope requirement a "typo" that will be corrected. These standards

are from the California Salmonid Habitat Restoration Manual, Part IX, Appendix A (see p. 4) – no changes are necessary.

Response to Comment RWQCB-14

The commenter notes that the table outlining risk, indicators, and armoring of culverts on page B-14 of the HCP lists "high" risk culverts as being "not sized for 100-year flows, with excessive fill, not aligned, not accessible in winter, with a steep gradient watercourse" and that the prescription for these is to "armor all fill underlain with geotextile fabric." The commenter also asks "[if] this table refers to existing culverts, why is there no discussion regarding the removal and upgrading of them? If it refers to new culvert installations, why are undersized culverts being proposed?"

The Services believe that the characterization of risk, indicators, and prescriptions in the table are correct as the table is to be used only for armoring of existing culverts when they will not be removed and/or replaced. Guidelines for the replacement of existing culverts are included as number (4) on page B-8 under "Road Surface Drainage" which states:

> "Culverts shall be replaced or removed if they are crushed, perforated, piping, separated, not adequate to carry water from the fifty-year flood level, located in unstable fill, or causing erosion that may be expected to deliver sediment to Class I, II, or III watercourses and lakes."

Culvert sizing at new crossings are discussed on page B-12-B14 (see response to comment RWQCB-13 above).

Response to Comment RWQCB-15

The commenter notes that the CFPRs require the removal of temporary crossings and blockage of the road to standard production 4-wheel drive vehicles prior to October 15 of the year of use. The commenter requests that the fourth paragraph on page B-16 be changed to include a definition of "potential subsequent traffic" and an explanation of how "blocking off" a temporary crossing is more protective of a watercourse than removing it and blocking off the road itself.

The Services acknowledge that the text is not clear, and have requested that the applicant better define how temporary crossings will be isolated from subsequent traffic. The new text (see p. B-16 in Appendix B of the HCP) states:

> "Upon completion of use, temporary crossings on "temporary roads" as defined in the CFPRs will be removed and temporary roads shall be blocked to prevent standard 4-wheel drive vehicles prior to October 15 of the year of use."

Response to Comment RWQCB-16

The commenter questions if Class I fords should ever be used for hauling, whether permanent or not. The Services believe this is not a common practice, nor is it preferred. The Services have requested that the applicant explain when and why Class I fords would be used. The new text (see p. B-16 in Appendix B of the HCP) states:

> "For Class I watercourses, fords will be sparingly used on smooth bottom channels and only if constructing another type of crossing (e.g. ramping up approaches to

install a culvert or bridge) would likely cause more environmental harm than good within the watercourse."

Response to Comment RWQCB-17

The commenter notes that HCP Appendix B contains no guidelines as to when vented fords and rocked dips are to be used at watercourse crossings. The Services agree and have requested that the applicant clarify when these types of installations would be used. The table on page B-10 of the HCP Appendix has been modified to indicate when vented fords and rocked dips may be used and the text regarding vented fords has been modified. The new text (see p. B-17 in Appendix B of the HCP) states:

> "The table on page B-10 indicates when vented fords may be used at watercourse crossings. As indicated, vented fords will not be installed at Class I watercourse crossings."

Response to Comment RWQCB-18

The commenter notes that the last paragraph on page B-17 of HCP Appendix B refers to "subsection (A) through (F) below" and that here is no following subsection (A) through (F). The Services agree and have asked the applicant to clarify. The correct reference is to subsection (1) through (6). The text has been modified to reflect this clarification.

Response to Comment RWQCB-19

The commenter suggests that the indicators for saturated soil conditions on page B-20 of the HCP be revised so that the project operators know when to cease work before a Basin Plan violation occurs. The Services acknowledge that the text is not clear, and have requested that the applicant include observation of saturated soil conditions as an indicator that would cause winter road construction to cease. The new text (see p. B-20 in Appendix B of the HCP) states:

> "FGS may conduct road upgrading during the winter period if soils are not saturated. In addition to observations of increasing soil saturation during rain events by personnel, saturated soil conditions may be evidenced by:…"

Response to Comment RWQCB-20

The commenter suggests that all WLPZ roads should exhibit a rocked or paved stable operating surface. In order to provide protection to all the beneficial uses of water in all watercourses, and to prevent the generation of fines upstream that may be transported to downstream Class I watercourses (not just in Class A lands). The Services do not believe that any change is necessary as the requested protections are included on page B-7 of the HCP under "Road Surface Drainage" as follows:

> "All existing, new and reconstructed roads in WLPZs that will be used for hauling in wet weather conditions will be surfaced with competent rock to a minimum compacted depth of 6 inches or paving, and the road surface maintained to avoid rutting or pumping of fines during use."

In addition, subsections (A) and (B) under number (5) in the same section specifies that for road approaches to a watercourse crossings in Class A lands:

(A) Road surfaces on the following shall consist of high-quality, durable, compacted rock or paving: (i) permanent roads, (ii) seasonal roads crossing Class I watercourses, and (iii) roads used for hauling (logs, rock, heavy equipment) from October 15 to June 1.

(B) Road surfaces on the following shall be treated with either: rock, slash, seed and straw mulch, seed and stabilized straw, or seed and slash: (i) all seasonal roads used for hauling in the current year, and (ii) all seasonal roads used from October 15 to June 1 for purposes other than hauling.

Response to Comment RWQCB-21

The commenter notes that there are numerous inconsistencies in the narratives regarding inspecting, maintaining and monitoring timelines and recommends that a comprehensive inspection, maintenance, and monitoring plan be included in the HCP. The Services agree and have requested that the applicant include a table on various types of inspections and monitoring timelines.

The Services agree that the narratives regarding inspecting, maintaining, and monitoring timelines can be improved for clarity and have requested that the applicant include additional text and tables describing their maintenance and inspection schedules in the HCP. The new tables will replace the existing table describing the maintenance schedule on page B-25 of the Road Maintenance and Operations Guide (Appendix B of the HCP).

Response to Comment RWQCB-22

The commenter notes that methodologies, science, and even conventional wisdom may have changed substantially since publication of the 3rd edition of the California Salmonid Stream Habitat Restoration Manual in 1998. The Services agree, but note that the referenced sections of the manual were published in 2006. Nevertheless, the Services have requested that the applicant clarify that the latest version of the manual (or its equivalent) would be used in the future. The new text (see p. B-28 in Appendix B of the HCP) states:

> "FGS will follow the guidelines and performance standards for road decommissioning methods described in the latest version of the California Salmonid Stream Habitat Restoration Manual, or its equivalent document, throughout the life of the HCP."

Response to Comment RWQCB-23

The commenter suggests that a more thorough discussion regarding road-related unstable areas is warranted, given that the Scott River TMDL identified the need to reduce sediment loading from road-related landsliding.

The Services do not believe that any change is necessary as the applicant has indicated that they will utilize existing roads whenever feasible, strive to minimize total mileage, minimize disturbance to natural features, avoid wet areas and unstable areas, and minimize the number of watercourse crossings (HCP page B-1). Any new road and landing construction will consider avoidance of routes near the bottoms of steep and narrow canyons, through marshes and wet meadows, on unstable areas, and near watercourses or near nesting sites of threatened or endangered bird species when selecting alternatives (factor [d] under

"Road Construction" on page B-20). In addition, all road-related sediment sources associated with unstable areas will be identified in the road assessment process and/or the road inspection process and will be fixed.

Response to Comment RWQCB-24

The commenter suggests revising the "Erosion Control" section to include more detail on the types of and application guidelines for use of erosion control measures. The Services do not believe that any revision is necessary as this section provides adequate guidance on the types of erosion control measures that may be used and maintenance guidelines to ensure that the measures continue to be effective. The applicant is required to track all road-related improvements to reduce sediment delivery potential throughout the Plan Area, and submit an annual report to document the effectiveness of road maintenance, upgrading, and decommissioning activities, collectively referred to as "Road Improvements." See page 7-11 of the HCP under "Effectiveness Monitoring."

Response to Comment RWQCB-25

The commenter suggests revising the "Stream Channel Reconstruction" section to include a provision requiring agency review and approval before doing any reconstruction work. The Services do not believe that any revision is necessary as all stream channel reconstruction would necessarily need to be reviewed and approved by the appropriate agencies. However, the Services have requested the applicant to include language to clarify this point. The new text (see p. B-31 in Appendix B of the HCP) states:

> "Stream channel reconstruction will occur under the review of CDFG and NMFS. Such reconstruction activities may be proposed under THPs or non-THP road management activity and will be subject to applicable state law (e.g. CDFG 1600 agreements)."

Response to Comment RWQCB-26

The commenter notes that obstruction and sediment removal activities are limited to within 30 feet upstream and downstream of the edge of a facility, and suggests revising this section to ensure that obstruction and sediment removal will occur as far upstream and downstream as is feasible and necessary to prevent/remediate deleterious impacts to the beneficial uses of waters of the State. The Services do not believe that any revision is necessary as 30 feet upstream or downstream of a facility is reasonable and practicable, given the inspection and maintenance schedules specified in the HCP.

Support Letters

January 15, 2010

Ms. Jennifer Jones

U.S. Fish and Wildlife Service

Re: Fruit Growers Supply Company's Habitat Conservation Plan.

Dear Federal Biologist:

I care deeply about the Northern Spotted Owl and Coho Salmon populations in the forests and watersheds of the Klamath Province. Please proceed with the development and authorization of a landscape level Habitat Conservation Plan for the Fruit Grower Supply Timber Company that recognizes the needs of these species while allowing for continued timber management activities.

I support and am encouraged by large industrial private landowners who are pursuing the development of landscape level management plans that strike a realistic balance between the needs of wildlife and fish while providing the long term incentives that allow for good, well thought out, forest management plans. I believe active forest operations can provide and protect more usable habitat for species that utilize our forest lands than if we do nothing and develop a forest condition that is susceptible to catastrophic wildfire. Fruit Growers Supply Timber Company and their California Professional Foresters who manage their timberland in accordance with State forest practice regulations, that are the most stringent in the world, should be congratulated and encouraged for initiating the development of a landscape level Habitat Conservation Plan. 1

Please work cooperatively with Fruit Growers Supply Timber Company in the development of reasonable science-based protection measures for species identified in their Plan while providing the flexibility necessary to continue viable forest management operations in this challenging economic climate.

Regards,

Lloyd T. Bradshaw

Klamath Alliance for Resources & Environment

January 15, 2010

Lisa Roberts
National Marine Fisheries Service
1655 Heindon Rd.
Arcata, CA 95521

RE: Support of Fruit Growers Supply Company- HCP

Dear Ms. Lisa Roberts:

Klamath Alliance for Resources & Environment supports the Habitat Conservation Plan and Incidental Take Permit for the Northern Spotted Owl, Coho Salmon, Chinook and the Yreka Phlox.

Fruit Growers Supply Company (FGS) is a conscientious steward of the land. They plant well over a million trees a year and manage for a multitude of species on their landscape. They have professional foresters and biologist on staff to ensure that environmental compliance is being met. By approving the HCP and ITP, the company will benefit from having more security in knowing what is expected on their company's lands in these uncertain economic times and be able to plan for what is designated in the plans.

In order to effectively manage large landscapes, one must plan to do so over long timeframes. However, this becomes complicated given the pace of policy changes that occur within regulating agencies. HCPs provide some certainty when managing wildlife species since the goals are stated up front and all parties know what is expected to achieve the stated goals. 1

Timber management is vital to reducing the extreme fuel loads that are present in Siskiyou County and elsewhere in this State. In addition, if timber companies, such as FGS were to stop managing timber, then the wildlife communities would continue to decline because most these timber lands would likely be sold to developers or small landowners. This would lead to fragmentation of our forested environments and an overall decline in environmental quality.

Please consider our comments as support for the HCP and ITP approval of Fruit Growers Supply Company.

Sincerely,

Danielle Lindler

/Danielle Lindler/,

Executive Director
RPF #2691, PCA#70419

P.O. Box 1234· Yreka, CA 96097 Office: (530) 938-9570 Cell: (530) 859-4040

From:	Tim Livingston
To:	FGSHCP.SWR@noaa.gov
Subject:	Please Do Not Allow FGS to Kill Spotted Owls
Date:	Friday, January 15, 2010 2:12:38 PM

Re: Fruit Growers Supply Company's Habitat Conservation Plan

Dear federal biologist,

After reading this article on KSwilds website I was thoroughly disappointed that an organization such as KSWild, which says it supports forest, but will not support a local timber company that is trying to operate in a sustainalbe manner. They just don't get the big picture. If companies like FGSC can continue to manage for timber then these lands will continue to be forests. When it is economically no longer viable as timberland then the risk is these lands may be developed for some other purpose that is less wildlife friendly. Long term timber management on private land is "GOOD" for wildlife. Please support Fruit Growers HCP. 1

Tim
Sincerely,

Tim Livingston

,

From:	Herb Baldwin
To:	Jennifer_Jones@fws.gov; FGSHCP.SWR@noaa.gov
Cc:	Charles.Brown@fruitgrowers.com
Subject:	Fruitgrowers Supply Company HCP
Date:	Monday, January 18, 2010 3:50:43 PM

Ms Jennifer Jones
Ms. Lisa Roberts

Re: My support of the Fruitgrowers Supply Company Habitat Conservation Plan (HCP)

As a professional forester and timberland manager in Northern California for over 30 years, I am aware of the complexities involved with balancing private landowners' objectives and long term management plans with the fish and wildlife values present in these productive forests.

I have read the specifics of the proposed HCP, and I am encouraged that Fruitgrowers Supply and both NOAA and the Fish and Wildlife Service are working toward this common end. This long term and enforceable agreement seems intended to balance the company's need for long term stability with even more protections than those already in place in law or as part of the most stringent forest practice rules in the country. 1

To the extent that Fruitgrowers is willing to accept these restrictions and proceed with this HCP (and some private landowners likely could not), I would encourage you to take advantage of these willing participants in landscape planning protections and to support and ultimately approve this effort.

Herb Baldwin
Redding District Manager
Sierra Pacific Industries

1/18/10

National Marine Fisheries Service
Attn: Lisa Roberts
Arcata Office
1655 Heindon Rd.
Arcata, CA 95521

Dear Mrs. Roberts

I am writing this letter in response to the Federal Register notice dated November 13, 2009 announcing the availability of a Draft Environmental Impact Statement, proposed Multi-Species Habitat Conservation Plan, and associated Implementation Agreement for public review and comment. I support Fruit Growers Supply Company's HCP and support the Proposed Action of the DEIS. Fruit Growers Supply Company has a long history of responsible and sustainable forest management practices and this HCP will help them continue sound forest stewardship long into the future. 1

Sincerely,

Ryan Hadley
16750 Fortune Way
Anderson, CA 96007

1/18/10

National Marine Fisheries Service
Attn: Lisa Roberts
Arcata Office
1655 Heindon Rd.
Arcata, CA 95521

Dear Mrs. Roberts

I am writing this letter in response to the Federal Register notice dated November 13, 2009 announcing the availability of a Draft Environmental Impact Statement, proposed Multi-Species Habitat Conservation Plan, and associated Implementation Agreement for public review and comment. I support Fruit Growers Supply Company's HCP and support the Proposed Action of the DEIS. Fruit Growers Supply Company has a long history of responsible and sustainable forest management practices and this HCP will help them continue sound forest stewardship long into the future. 1

Sincerely,

Bruce Haynes

Bruce Haynes
19681 Osceola Court
Redding, Calif. 96002

ROSEBURG

January 18, 2010

Lisa Roberts
National Marine Fisheries Service
1655 Heindon Rd
Arcata, CA 95521

Dear Ms. Roberts

Roseburg Resource Company would like to voice their support for Fruit Growers Supply Company's Habitat Conservation Plan and their application for an Incidental Take Permit for the North Spotted Owl, Yreka phlox, coho and Chinook salmon, and steelhead.

We feel that an important part of the Endangered Species Act is the ability of interested parties to pursue innovative ways to protect endangered species while still being able to manage their lands. The HCP process encourages long term protection of threatened and endangered species while providing the applicants with some level of assurance that they will be able to meet their long term planning goals.

We have read the Draft EIS, IA, and HCP and feel that they strike an appropriate balance between protecting endangered species and maintaining the ability of a 100+ year old company to provide both jobs and high quality wood products to a region that has been hit especially hard by the recent economic downturn.

1

The forest products industry is vitally important to rural areas such as Siskiyou County. Not only because it provides good, family wage jobs, but probably more importantly, it provides and supports the infrastructure needed to manage and protect our forests so that they will continue to provide habitat for endangered species into the foreseeable future. As stated in the Final NSO Recovery Plan, wildfire is one of the single greatest threats to the continued existence of the northern spotted owl. Without the ability to manage this threat, huge areas of spotted owl habitat will be lost to catastrophic wildfires.

We also appreciate the innovative approach used in the HCP where NSO Activity Centers are ranked based on their conservation value. This provides the greatest protection to those sites that are known to be viable in supporting NSO's and reproduction. As most people that are familiar with NSO in California know there are many sites in the NSO database that do not warrant or deserve the same level of protection that these higher conservation value sites deserve. This will allow FGS to manage more of their lands to produce wood products while maintaining the best owl sites that are often linked to and compliment NSO sites found on CHU's and LSR's on adjacent federal lands.

We appreciate the opportunity to provide this letter of support to FGS and their Draft HCP.

Sincerely,

Steven Henson

Steve Henson
California Operations Manager

98 Mill Street
Weed, CA 96094
PH 530-938-5725
FX 530-938-5490
www.Roseburg.com

1/18/10

National Marine Fisheries Service
Attn: Lisa Roberts
Arcata Office
1655 Heindon Rd.
Arcata, CA 95521

Dear Mrs. Roberts

I am writing this letter in response to the Federal Register notice dated November 13, 2009 announcing the availability of a Draft Environmental Impact Statement, proposed Multi-Species Habitat Conservation Plan, and associated Implementation Agreement for public review and comment. I support Fruit Growers Supply Company's HCP and support the Proposed Action of the DEIS. Fruit Growers Supply Company has a long history of responsible and sustainable forest management practices and this HCP will help them continue sound forest stewardship long into the future. 1

Sincerely,

Howard Peterson

Howard Peterson
17691 Yellow Pine Rd.
Shasta Lake, CA 96019

1/18/10

National Marine Fisheries Service
Attn: Lisa Roberts
Arcata Office
1655 Heindon Rd.
Arcata, CA 95521

Dear Mrs. Roberts

I am writing this letter in response to the Federal Register notice dated November 13, 2009 announcing the availability of a Draft Environmental Impact Statement, proposed Multi-Species Habitat Conservation Plan, and associated Implementation Agreement for public review and comment. I support Fruit Growers Supply Company's HCP and support the Proposed Action of the DEIS. Fruit Growers Supply Company has a long history of responsible and sustainable forest management practices and this HCP will help them continue sound forest stewardship long into the future. 1

Sincerely,

Robert Hoover, RPF #2832
21852 Rocky Ridge Road
Burney, CA 96013

ORIGINAL

California Natural Resources Agency
DEPARTMENT OF FISH AND GAME
Northern Region
601 Locust Street, Redding, CA 96001
http://www.dfg.ca.gov

ARNOLD SCHWARZENEGGER, Governor
JOHN McCAMMAN, Director

February 5, 2010

Ms. Lisa Roberts
National Marine Fisheries Service, Arcata Area Office
1655 Heindon Road
Arcata, CA 95521

Dear: Ms. Roberts:

The Department of Fish and Game (DFG) is submitting this letter in response to the request for comments on the National Oceanic and Atmospheric Administration National Fisheries Service (NMFS) and the U.S Fish and Wildlife Service (USFWS) "Draft Environmental Impact Statement for Authorization for Incidental Take and Implementation of Fruit Growers Supply Company's Multi-Species Habitat Conservation Plan" and "Fruit Growers Supply Company Multi-Species Habitat Conservation Plan". These documents were prepared pursuant to the National Environmental Policy Act (NEPA) to assess the environmental impacts associated with NMFS and USFWS issuance of Incidental Take Permits (ITP) to Fruit Growers Supply Company (FGS) during the course of timber management activities on FGS lands located in Siskiyou County, California.

The ITP issued by NMFS will cover three aquatic species: State- and federally threatened Southern Oregon/ Northern California Coasts coho salmon (*Oncorhynchus kisutch*) and two currently unlisted species, the Klamath and Trinity Rivers Chinook salmon (*O. tshawytscha*) and the Klamath Mountains Province steelhead (*O. mykiss*). The ITP issued by the USFWS will allow for take of one terrestrial species, the federally threatened northern spotted owl (*Strix occidentalis caurina*). The Multi-Species Habitat Conservation Plan (HCP) will also contain conservation measures for the State- and federally endangered plant Yreka phlox (*Phlox hirsuta*). The duration of the ITPs is proposed for 50 years.

FGS preconsulted with DFG while developing the HCP, predominantly related to addressing impacts to coho salmon. Best management practices were incorporated to minimize impacts to aquatic species. DFG staff also provided input to NMFS and 1

ORIGINAL

USFWS regarding the Draft Environmental Impact Statement during its development. DFG has conducted its final review and supports the HCP and DEIS. No further comments are forthcoming. 1 cont'd

If you have any questions please contact Senior Environmental Scientist Curt Babcock at 530-225-2740, or cbabcock@dfg.ca.gov.

Sincerely,

MARK STOPHER
Acting Regional Manager

ec: Messrs. Kenneth Moore and Curt Babcock
Ms. Jennifer Bull
Department of Fish and Game, Northern Region
kmoore@dfg.ca.gov
cbabcock@dfg.ca.gov
jbull@dfg.ca.gov