NOTICE OF APPEAL

and

STATEMENT OF REASONS

CREEKS PROJECT

LASSEN NATIONAL FOREST

ALMANOR RANGER DISTRICT

LAURIE TIPPIN, FOREST SUPERVISOR, DECIDING OFFICER

BERNARD WEINGARDT, REGIONAL FORESTER, APPEAL DECIDING OFFICER

November 4, 2005

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Notice of Appeal and Statement of Reasons
Creeks Project, Lassen National Forest, Almanor Ranger District
November 4, 2005

Appellants, Sierra Nevada Forest Protection Campaign ("SNFPC" or "Campaign"), Sierra Club, Lassen Forest Preservation Group ("LFPG"), and Butte Environmental Council hereby appeal the Record of Decision ("ROD") approving the Creeks Forest Health Recovery Project signed by Forest Supervisor Laurie Tippin on September 9, 2005, pursuant to 36 C.F.R. Part 215. Public notice appeared in the Lassen County Times on September 20, 2005. The appeal deadline is November 4, 2005, and this appeal is timely filed. Appellants filed timely and substantive comments on this project and have standing to appeal the project pursuant to 36 C.F.R. § 215.13(a) (2005).

The Creeks project implements the 2004 Sierra Nevada Framework ROD (USDA Forest Service 2004a), and tiers to the accompanying FSEIS (USDA Forest Service 2004b). As demonstrated in our appeal of the 2004 ROD and FSEIS (SNFPC et al. 2004), both the 2004 plan and the FSEIS fail to comply with the National Forest Management Act, the National Environmental Policy Act, and other environmental laws. A lawsuit challenging the 2004 Framework is currently pending in federal court. Therefore, for the programmatic reasons set forth in our appeal of the 2004 ROD and FSEIS,[1] the Creeks project is also contrary to law.

I. OVERVIEW AND SUMMARY

The Creeks project proposes intensive logging in a large and ecologically significant area that has already been heavily logged. The project will further degrade habitat values for wildlife that inhabit older forests, resulting in cumulative effects that threaten the viability and distribution of the California spotted owl and American marten, contrary to law.

The Creeks project would log 5905 acres of defensible fuel profile zones (DFPZs), 3285 acres of individual tree selection or area thinning, and 1186 acres of group selection. (ROD, pp. 1-2). The project will log approximately 28 percent of existing habitat for the California spotted owl and American marten, and will reduce existing owl and marten habitat by approximately 15 percent. (ROD, p. 5). Approximately 50 percent of the project area has already been logged in the past 25 years, resulting in a forest "dominated by young, dense stands" (FEIS, p. 124) and "generally understocked with medium and larger sized trees" (FEIS, p. 95). In addition, past logging has generally led to reduced canopy cover within the project area. (FEIS, p. 128). Given that the Creeks project will log additional medium and large trees and will further reduce canopy cover, the cumulative effects of implementing the Creeks project will be to degrade significantly the area's potential to support viable populations of species associated with old forests.

The ROD adopts Alternative 14, an alternative that was included in the FEIS for the first time. As stated throughout the FEIS, the differences between Alternative 14 and Alternative 1 – the proposed action in the DEIS – are relatively minor. (See, e.g., FEIS, p. 158 (impacts of the two alternatives to owl breeding territories "very similar"), p. 186 (Alternative 14 "very similar" to

[1] A copy of the appeal was attached to our earlier scoping comments on this project and is hereby incorporated into this appeal by reference.

Alternative 1 with respect to impacts on marten), p. 117 (differences between alternatives with respect to fire and fuels "very minimal"). Therefore, with minor exceptions, Alternative 14 suffers from the same deficiencies as Alternative 1. As described in detail in the comments on the DEIS submitted by appellants and by leading experts, implementing the project would further threaten the viability and distribution of species associated with old forests, including the California spotted owl, Pacific fisher, and American marten. (Blakesley 2005a; Kucera 2005a). These and other experts have reviewed the ROD and FEIS and have reiterated these concerns. (Blakesley 2005b; Bond 2005; Kucera 2005b).

The analysis and data underlying the FEIS are significantly flawed. For example, the FEIS underestimates the project's risk to the California spotted owl and American marten in several important ways. To the extent that the FEIS acknowledges that these species may be adversely affected, it fails to analyze potential impacts to the viability and distribution of these species in the planning area. The FEIS entirely fails to analyze likely adverse impacts to Pacific fisher habitat, and arbitrarily concludes that the project will have no affect on the pileated woodpecker. With respect to numerous management indicator species, the project lacks any monitoring or population data and bases its analysis on outdated information. Finally, the FEIS fails to take a hard look at critical questions that go to the heart of the decision to approve the project: whether fuels reduction goals can be achieved with logging that would have fewer adverse impacts to imperiled wildlife. The failure to analyze reasonable alternatives, particularly alternatives with higher canopy cover retention standards and lower dbh limits, violates NEPA.

For these and other reasons detailed below, the Creeks ROD and FEIS fail to comply with applicable laws, and the decision should be reversed.

II. CALIFORNIA SPOTTED OWL

The California spotted owl is threatened with extinction and requires protection under the Endangered Species Act. The Campaign and other groups have petitioned the U.S. Fish and Wildlife Service to protect the owl under the ESA. (Center for Biological Diversity et al. 2004). The Fish and Wildlife Service recently issued a positive 90-day finding that the petition presents substantial information indicating that listing may be warranted. (USDI Fish and Wildlife Service 2005).

The 2004 Framework will result in substantial loss and degradation of habitat for the California spotted owl by allowing harvest of medium and large trees, reduction in canopy cover, and removal of large snags and down logs. The leading owl biologists who have reviewed the 2004 Framework have uniformly concluded that the plan threatens the owl's viability throughout the Sierra Nevada and contributes to a trend towards federal listing.[2] (Verner 2003; Blakesley and Noon 2003a; Noon 2004; Peery 2004; Bond 2003; Franklin et al. 2003). The Campaign has filed suit in federal district court challenging the 2004 ROD. *Sierra Nevada Forest Protection Campaign v. Rey,* Civ. S-05-0205 MCE/GGH (E.D. Cal.). Because the Creeks project implements the 2004 ROD, it contributes to the risk to the owl's viability and to the need for listing the owl under the Endangered Species Act. (Bond 2005).

[2] These reviews are included as part of the Campaign's appeal of the 2004 ROD.

A. The FEIS Fails to Acknowledge the Owl's Imperiled Status in the Project Area.

There is substantial cause for concern regarding the owl's status, particularly in the project area where the demographic studies strongly suggest a declining population trend. The EIS fails to cite much of the relevant data and understates the risks to the owl's viability in the area, as owl experts Monica Bond (2005) and Dr. Jennifer Blakesley (2005b) conclude in their statements (see attached).

In their response to the demography synopsis for the U.S. Fish and Wildlife Service's 12-month finding, Blakesley and Noon (2003b) noted that four measurements of population trends (represented by λ, the finite rate of population change) for California spotted owls in the Lassen study area from 1990-2001 showed declines over time: projection matrix estimates (λ_{PM}); estimates of λ_T from a meta-analysis; numbers of territorial owls in 68 territories surveyed consistently over time; and a model of occupancy as a function of year and forest type (Blakesley 2003). (See Bond 2005). No analyses showed increasing trends. As Blakesley stated in her DEIS comments:

> The point estimate of [lambda in the meta-analysis] indicated an average population decline of 1.5% annually. Other analyses of the Lassen owl population indicated a decline in owl site occupancy from 1993-1998 (Blakesley et al. In Press.) Together, these results cause significant concern regarding the viability of the California spotted owl in the northern Sierra Nevada, including the project area. (Blakesley 2005a, p. 1).

Similarly, a recent report summarizing the Lassen demographic study stated the following "key finding":

> Several lines of evidence suggest[] the spotted owl population in the Lassen study area declined from 1990-2004. The number of sites occupied by territorial owls declined, two estimates of population change (lambda) were < 1, and models of site occupancy in relation to habitat included a declining trend over time. There was no evidence that the spotted owl population on the Lassen study area increased from 1990-2004. (Blakesley et al. 2005, p. 13).

In summarizing this data, Dr. Blakesley emphasized what she characterized as an "alarming decline in the number of owls within the Creeks project area." (Blakesley 2005b, p. 2).

The FEIS fails to acknowledge any of these indicators of the owl's population decline in the project area, other than to cite the meta-analysis for the proposition that "populations are either stable or only slightly declining." (FEIS, p. 136). However, as Dr. Blakesley concludes, "it appears from the decline in site occupancy from 1992-2004 … that the rate of decline may be much steeper in the Creeks analysis area." (Blakesley 2005b, p. 2). By failing to cite the best available data or to disclose the evidence of the owl's population decline in the project area, the FEIS falls short of meeting NEPA's full disclosure requirements.

B. The Creeks Project Implements the 2004 Framework and QLG Project and Therefore Threatens the Owl's Viability.

The Creeks project implements the QLG pilot project and the 2004 Framework. However, these plans are contrary to law, so implementing the Creeks project would also be contrary to law.

The Forest Service prepared an EIS and biological assessment/biological evaluation (BA/BE) to analyze the impacts of implementing the QLG project, which found that the QLG project would significantly degrade owl habitat. (USDA Forest Service 1999b). Of all the alternatives considered, full implementation of the QLG project posed the greatest overall risks to the spotted owl. (USDA Forest Service 1999a, p. 82). The BA/BE concluded as follows:

> Alternative 2 [the pilot project] would reduce the amount of California spotted owl … nesting habitat by 7% over the life of the pilot project, and reduce the amount of foraging habitat by 8.5%. Such reductions in suitable habitat would decrease the number of owl home ranges with more than 50% suitable habitat by 11% over the term of the project. Alternative 2 also rated the lowest among the alternatives in minimizing habitat fragmentation and impacting spotted owl Areas of Concern.
>
> In light of the recent demographic studies showing declining spotted owl populations, such impacts to owl habitat could pose a serious risk to the viability of the owl in the planning area, thereby making the implementation of Alternative 2 inconsistent with the National Forest Management Act and its implementing regulations.
>
> In order to minimize the threat to the viability of the owl in the planning area, it is necessary to add mitigation, beyond the minimum CASPO interim guideline requirements to maintain suitable habitat within the planning area. (USDA Forest Service 1999a, emphasis added).

The BA/BE therefore recommended that "no timber harvesting … be permitted in suitable owl habitat unless and until a new owl strategy for the Sierra Nevada is released." (Ibid.).

The U.S. Fish and Wildlife Service reviewed the QLG project in response to the Forest Service's request for comments and consultation. (USDI Fish and Wildlife Service 1999). The Fish and Wildlife Service expressed concerns "that the proposed action will negatively affect spotted owl survival and/or reproduction for the following reasons: (1) habitat loss, (2) habitat fragmentation, and (3) changes in prey base." Specifically, the Fish and Wildlife Service set forth the following concerns:

- "The Service is concerned that loss of spotted owl habitat will occur through DFPZ construction, thinning, individual tree selection and group selection treatments." (pp. 6-7)
- Protecting only PACs and SOHAs "may result in the loss of suitable habitat in a significant portion of an owl's home range and in dispersal habitat outside and between home ranges. The Service agrees that management actions that reduce habitat suitability within home ranges can accelerate population declines." (p. 7)

- The project "does not take into account the juxtaposition of suitable nesting, roosting, and foraging habitat and other vegetation types, which may result in assemblages of habitat that do not promote fitness of owls." (p. 7)
- "A reduction in habitat quality could reduce owl densities …, limiting successful mate finding and dispersal and increasing nearest-neighbor distance." (p. 7)
- "The Service is concerned that reduction of suitable configurations of nesting, roosting, and foraging habitats in combination with declining populations and unforeseen contingencies (e.g., fire, disease and insect outbreaks, and drought) within spotted owl home ranges will have significant adverse effects on spotted owl population viability." (p. 8)
- "The Service is concerned that implementation of [the pilot project] may cause negative impacts to California spotted owls due to habitat fragmentation." (p. 9)
- "Due to the level of snag and large woody debris removal as proposed, the Service is concerned that [the pilot project] will remove suitable den sites and food sources of northern flying squirrels and consequently reduce the prey base for California spotted owls." (p. 10)

In sum, the Fish and Wildlife Service concluded as follows: "The Service believes the implementation of Alternative 2 poses a significant threat to the long-term viability of the California spotted owl, Pacific fisher, and American marten due to the loss, degradation, and fragmentation of suitable habitat." (USDI Fish and Wildlife Service 1999, p. 16, emphasis added).

The Record of Decision approving the QLG project reiterated these concerns about owl viability and adopted the mitigation measure recommended in the BA/BE. Specifically, the ROD found that fully implementing the QLG project "could pose a serious risk to the viability of the California spotted owl in the planning area." (USDA Forest Service 1999c).

The Forest Service reconsidered the impacts of fully implementing the QLG project during the process of adopting the Sierra Nevada Framework. The Forest Service again concluded that fully implementing the QLG project would significantly increase the risks to the owl, compared to the Framework alternative. In particular, the Forest Service found as follows:

- "Over the 5-year timeframe of this project, there would be greater potential for increasing nearest neighbor distances between owl sites on these forests, increasing uncertainties associated with effective dispersal and mate-finding." (USDA Forest Service 2001a, Volume 3, Chapter 3, part 4.4, p. 86).
- "If management activities reduce owl occupancy and productivity across this area (as expected under alternative 2 of the HFQLG), opportunities to stabilize population declines could be substantially compromised." (USDA Forest Service 2001a, Volume 3, Chapter 3, part 4.4, p. 94).
- "Population declines that would occur within the three geographic areas of concern located within the HFQLG project area, exacerbate the overall risk to spotted owl population…. Actions proposed under Alternative 2 of the HGQLG will widen gaps between habitat parcels and probably reduce the densities of owls within [Area of Concern 1." (USDA Forest Service 2001a, Volume 3, Chapter 3, part 4.4, p. 94).

- Overall, the FEIS concluded with respect to the QLG project: "The high rates of vegetation treatments occurring over a short time period would result in substantial risk to the distribution and abundance of California spotted owls and owl habitat in the northern Sierra Nevada." (USDA Forest Service 2001a, Volume 3, Chapter 3, part 4.4, p. 99).

Regional Forester Brad Powell, in the Framework ROD, stated his intention "to carry out as much of the [QLG] pilot project as possible." (USDA Forest Service 2001b, p. 50). However, he concluded that "the entire level of management activity specified in the HFQLG legislation cannot be implemented without degrading owl habitat without increasing risk to owl viability. The provisions for excessive canopy closure reductions, large tree removals, and substantial acreages in group selection treatments are factors contributing to this conclusion." (USDA Forest Service 2001b, p. 51).

The owl biologists have consistently expressed serious concerns about fully implementing the QLG project. See, for example, Blakesley and Noon 1999 (expressing "particular concern" about planned logging within QLG pilot project area); Verner 2003, p. 6 (implementation of QLG project "will lower the viability of the owl population in affected national forests); Blakesley and Noon 2003a, p. 5 (full implementation of QLG project deemed "inexplicable" and "unacceptable"); Peery 2004. To the best of our knowledge, no owl biologist has expressed support for fully implementing the QLG project.

In sum, implementation of the QLG project pursuant to the 2004 ROD threatens the viability of the California spotted owl and other species, contrary to law. Because the Creeks project implements the 2004 Sierra Nevada Framework, the Creeks project will further threaten the owl's viability and contribute to the present trend towards listing under the Endangered Species Act.

C. The Creeks Project Threatens the Owl's Viability and Distribution in the Project Area and the FEIS Fails Adequately to Disclose this Risk.

The Creeks project will substantially reduce the amount of owl habitat within the project area and within owl territories and nest core areas. As Bond concludes: "The FEIS underestimates the amount of habitat that will be rendered unsuitable, understates the number of owl territories that will be adversely affected and fails to include any analysis of how this degradation of habitat and home ranges is likely to affect the owl's distribution and viability in the project area." (Bond 2005, p. 2).

1. Impacts on Owl Home Ranges.

At the home range scale, the FEIS acknowledges that "most of the home ranges would see a general reduction in the amount and value of suitable habitat due to a loss of stand complexity as well as a general decline in decadence." (FEIS, pp. 141-42). The Forest Service concludes that the risk to owl territories would be acceptable because the amount of suitable habitat remaining within owl home ranges would generally be "above 30% suitable habitat within the 4,500 acre home range, the minimum threshold recommended by Bart (1995)." (FEIS, p. 143). However,

this analysis is flawed for several reasons, as explained in the attached statements by owl experts Monica Bond (Bond 2005) and Jennifer Blakesley (2005b).

The Forest Service assumes that stands treated with Prescriptions A, C, F, G and H "would result in lowered habitat values" but would "remain suitable" as owl habitat. (FEIS, p. 142). As Bond explains in her statement, this assumption is "questionable." (Bond 2005, p. 3). Prescription C applies to CWHR 5M, 5D and 6 stands, and would thin from below using a 30" dbh limit to a minimum of 40 percent canopy cover. (FEIS, p. 17). Prescription G involves area thinning to a minimum canopy cover of 40%. (FEIS, p. 18). Prescription H involves area thinning within CWHR 5M, 5D, and 6 stands, in which canopy cover could be reduce to as low as 40%. (FEIS, p. 19). The Forest Service has recognized, in the project BE and elsewhere, that 50% is the minimum value for owl foraging habitat. (BE, p. 20; USDA Forest Service 2001a, Vol. 3, Chap. 3, part 4.4, p. 73). Canopy cover of 40% is considered, at best, "marginally" suitable for owls. (USDA Forest Service 2001a, Vol. 3, Chap. 3, part 4.4, p. 73). "Given that 50 percent has been recognized as the minimum value for owl foraging habitat, and that 40 percent is considered at best marginal, the likelihood is that many, if not most, of the acres reduced to 40 percent canopy cover will be rendered unsuitable for owls." (Bond 2005, p. 3). At a minimum, the FEIS should have analyzed this possibility. "By assuming that all stands reduced to 40 percent canopy cover will remain suitable owl habitat, the FEIS understated the project's likely adverse impacts to the owl." (Bond 2005, p. 3).

Based on this flawed assumption regarding suitable habitat, the FEIS analyzes impacts to owl home ranges using Bart's (1995) research on the northern spotted owl in the Pacific Northwest. Bart concluded that, on average, a northern spotted owl territory will support a stable population of owls when the proportion of the home range covered by suitable habitat ranges between 32-50 percent. The Creeks BE (p. 28) concludes that "the home ranges that have had reproduction and are directly affected by the project … are above 30% suitable habitat …, the minimum threshold recommended by Bart (1995)." As explained in detail by Bond, "this analysis does not withstand close scrutiny." (Bond 2005, p. 3).

Bart's range of 32-50 percent suitable habitat within each owl home range was based on a range of estimates for juvenile survivorship from .5 to .3 – the higher the assumed juvenile survivorship, the lower the percentage of suitable habitat required within each home range. (Bart 1995, p. 945, Table 1). Local information available from the Lassen Demographic study, within the Creeks project area, indicates a juvenile survival rate of .33. (Blakesley et al. 2001, p. 671). This figure is at the low end of the assumptions used in Bart, which means that the amount of habitat within each home range must be at the high end. Using this figure in Bart's analysis shows that 45-50% of each owl home range must include suitable habitat, rather than the 30% figure utilized in the Forest Service's analysis in the Creeks project. (Blakesley 2005b, p. 2; Bond 2005, p. 3).

Using the more defensible assumption that 45-50% suitable habitat – 2025 to 2250 acres – is required within each 4500 acre home range produces results very different from those included in the Creeks FEIS, as explained in Bond's critique. (Bond 2005, pp. 3-4; see Table 1 below). Utilizing the 2250 acre figure, 10 of the 21 owl territories currently lack sufficient habitat, and 16 of the 21 areas would lack sufficient habitat after the project is implemented (i.e., 6 territories

would be rendered unsuitable and 76% would fail to meet the minimum after project implementation). (FEIS, p. 159). Utilizing the 2025 acre figure, 8 of the 21 owl territories currently lack sufficient habitat, and 13 of the 21 areas would lack sufficient habitat after the project is implemented (i.e., 5 territories would be rendered unsuitable and 62% would fail to meet the minimum after project implementation). By contrast, by using a 30% threshold (1350 acres), the FEIS suggests that only 5 of the owl territories currently lack sufficient habitat, and that none of the owl territories would be rendered unsuitable as a result of project implementation. Thus, as Bond concludes in her statement, "based on the best available research, the FEIS and BE significantly underestimate the likely adverse impacts to owl territories of implementing the Creeks project" (Bond 2005, p. 4), contrary to NEPA.

Table 1 – Effects of Creeks Project on Owl Territories (from Bond 2005)

Habitat required per territory	Territories meeting standard pre-project (21 total territories)	Territories meeting standard post-project	Territories rendered unsuitable by project
2250 acres (50%)	11	5	6
2025 acres (45%)	13	8	5
1350 acres (30%)	16	16	0

Beyond that, there is strong reason to believe that Bart's 32-50% estimate, which was based on the northern spotted owl and its habitat, underestimates the amount of suitable habitat required within California spotted owl home ranges in the Sierra Nevada. In Bart's study, "suitable" owl habitat was essentially unlogged old growth forest, rather than forests that have previously been logged, as in the Sierra Nevada generally and the Creeks project area in particular. As stated by Forest Service researchers, "the lower quality of the Sierra Nevada habitat leads one to speculate that the amount of useable habitat required for spotted owls in the Sierra Nevada is likely greater than the 30 to 50 percent threshold zone found in Bart's study." (Lee et al. 2000). Similarly, Dr. Verner has stated, in the Sierra, that Bart's 30-50% estimate is "more likely to be shifted up (i.e., corresponding to some higher range of percentages suitable) because most suitable owl habitat, as we understand it for the Sierra Nevada, is not of the high quality where Bart worked." (Verner 1999).

Other information indicates that 30-50% is considerably lower than the amount of suitable habitat within owl home ranges. Verner et al. (1992, p. 155) found that 67% of owl home ranges within the Lassen study area had canopy cover of 40 percent or greater, which would be considered suitable under the Forest Service's analysis for the Creeks project. Blakesley (2003) found that 78% of owl core areas (defined as approximately 2010 acres surrounding the activity center) had suitable habitat (defined as medium-large trees with canopy of 40% or greater). The Forest Service, in the QLG FEIS, utilized 50 percent suitable habitat within each home range as an important threshold value. (USDA Forest Service 1999b, p. 3-104).

In sum, the home range analysis in the FEIS appears to be seriously flawed, underestimating the amount of suitable owl habitat required within owl home ranges and underestimating the project's likely adverse impacts to owl territories. "Based on the best available data, the

project's adverse impacts to owl territories will be significantly greater than disclosed in the FEIS." (Bond 2005, p. 4). Thus, the FEIS fails to comply with NEPA.

2. Impacts on Owl Nest Core Areas.

In addition to analyzing impacts at the owl home range scale, the FEIS also analyzes impacts at the scale of 500 acre owl nest core areas. (FEIS, pp. 145-148). The analysis in the FEIS is based on the assumption that "Blakesley's data indicates that 50% habitat within the core area is an important threshold." (FEIS, p. 146). However, as explained by Blakesley in her declaration, "[t]his statement is completely erroneous."

> I have never indicated that there is such a "critical threshold", and my data show that the average from 67 spotted owl territories in the Lassen National Forest (including territories in the Creeks project area) was 83% suitable habitat within the 500 acre nest area, with a standard deviation of 12% (Blakesley 2003). Therefore, 83% suitable habitat within nest areas is a reasonable minimum target, whereas 50% is not. Anything less than 71% (the average minus 1 standard deviation) should be unacceptable as a management target. With this clarification in mind, the risk assessment for California spotted owls in the Creeks FEIS (Table 3-34; p. 149-150), should be re-evaluated with respect to risks to the nest cores (Table 3-44, p. 160). In particular, the risk to nest cores PL047, PL121, and PL306 is high rather than moderate or low, and the risk to PL048 is moderate rather than low. (Blakesley 2005b, p. 1).

By erroneously assuming that 50 percent suitable habitat is sufficient within owl nest core areas, "the FEIS underestimates the project's likely adverse impacts to California spotted owl nest areas." (Blakesley 2005b, p. 1).

The Forest Service's nest core area analysis is also flawed because it lumps together all "suitable" habitat, i.e., nesting and foraging habitat are not distinguished. However, Blakesley's analysis of owl territories in the Creeks project area indicates that the quality of the habitat within owl territories is important, i.e., all "suitable" habitat is not interchangeable. Blakesley (2003, p. 13) found that "the amount of nest area dominated by large trees and canopy cover >70% [i.e., CWHR 5D and 6] was positively associated with site occupancy whereas the amount of nest area dominated by medium-sized trees with canopy cover >70% [i.e., CWHR 4D] was negatively associated with site occupancy." As Bond concludes: "By lumping all "suitable" habitat together, the Forest Service's analysis obscures this important distinction." (Bond 2005, p. 4). Given how little high quality nesting habitat exists in the project area, this difference is important.

3. Lack of Any Demographic or Viability Analysis.

The FEIS and BE acknowledge that the project will have adverse impacts on the owl, yet fail to include any kind of demographic or viability analysis to assess the potential consequences on the owl population in the planning area.

The BE (p. 38) states, "the data has shown a marked decline in reproductive territories and this project adds further risk to reproduction and long-term territorial viability through a loss of habitat combined with a reduction in habitat value." (See also FEIS, p. 150). The BE (p. 39) acknowledges a "moderate risk" that empty territories would not be reestablished and a "moderate risk that reproduction would decline." The BE (p. 39) also indicates "a high risk that the project would have an impact to nesting and that impacts would cumulatively act to reduce the overall nesting success on the District and hence the Forest." See also FEIS, p. 144 (owl "reproduction would be expected to decline somewhat over the next decade").

Yet the FEIS and BE fail to analyze the consequences of these risks for the owl population in the planning area and in the northern Sierra. As Bonds states in her critique:

> To what extent is the rate of reproduction expected to decline? How would this expected decline affect the viability of the owl population in the planning area? How many owl territories might become vacant? How will these empty territories affect the owl's current distribution in the planning area? This kind of information and analysis is necessary to a full and fair assessment of the project's likely impacts, yet the FEIS and BE fail to provide this analysis. In the absence of such analysis, there is a serious risk that the Creeks project will further threaten the viability and distribution of the California spotted owl in the project area and in the northern Sierra Nevada, contributing to the present trend towards federal listing under the Endangered Species Act. (Bonds 2005, p. 5, emphasis added).

In sum, the Forest Service's conclusion that the project is not likely to threaten owl viability or contribute to a trend towards listing is not supported by the analysis in the FEIS, and the Forest Service has not met its legal duty to insure the continued viability and distribution of the owl in the planning area. 36 C.F.R. 219.19.

III. AMERICAN MARTEN

A. The FEIS Fails to Acknowledge the Marten's Imperiled Status.

As discussed by forest carnivore expert Thomas Kucera in his critique of the Creeks project, the FEIS fails to recognize the imperiled status of the American marten in the northern Sierra Nevada and the ecological significance of the project area in ensuring a viable and well distributed population of marten. (Kucera 2005b, attached hereto and incorporated herein by reference). As Dr. Kucera concludes, the Creeks project is likely to further degrade habitat in the area and to further reduce north-south habitat connectivity, contrary to legal requirements that connectivity be maintained and viability be insured. The FEIS fails adequately to disclose these impacts, contrary to NEPA.

By nature a relatively uncommon species, American martens are inherently vulnerable to local extirpation and extinction for several reasons, as noted in the Sierra Nevada Framework EIS (USDA Forest Service 2001a, Vol. 3, Chap. 3, part 4.4, pp. 22-23). First, martens have low reproductive potential; second, they have an affinity for dense overhead cover and tend to avoid forest openings; and third, martens have very large home ranges relative to their body size.

Thus, as Dr. Kucera concluded in his comments on the DEIS, "habitat changes that would alter the marten's preferred habitat, such as the changes that would result from the Creeks Project, could reduce the marten's range and distribution, lead to local extirpation, delay reestablishment after extirpation, and further isolate the marten population to the south from those in the north." (Kucera 2005a, p. 2).

The FEIS fails to acknowledge recent research indicating that the marten's population may be imperiled in the northern Sierra and that the project area appears to play a critical role in providing north-south habitat connectivity for the species. Recent studies by leading Forest Service forest carnivore experts compared contemporary and historical distributions of habitat and populations for forest carnivores, including the marten. (Zielinski et al. 2005a; Zielinski 2004). The research concluded that the marten is a species "with substantial changes in distribution," including "large gaps between contemporary detections that were not present historically" in the northern Sierra Nevada and southern Cascades. (Zielinski et al. 2005a, p. 1394). The authors conclude that marten "populations in the southern Cascades and northern Sierra Nevada now appear discontinuous." Notably, "the areas of Plumas and Lassen County where martens were not detected, and which have been managed for timber harvest, have relatively little forests with late seral/old growth attributes." (Zielinski et al. 2005a, p. 1394). The authors conclude that the apparent reduction in the range of the marten and other forest carnivores is most likely due to a combination of factors, including "loss of mature forest habitat." (Ibid., pp. 1385-86).

The FEIS (p. 171) was based on the assumption that "marten appear to occupy much of its historic range in California particularly in the Sierra Nevada," citing Kucera et al. (1995). However, in light of recent research documenting an apparent gap in the marten's distribution in the northern Sierra Nevada, this assumption is no longer valid. Therefore, as Dr. Kucera concludes, "the FEIS is misleading and fails to recognize the marten's imperiled status in the area." (Kucera 2005b, p. 2). NEPA requires that the project be reconsidered in light of this significant new information.

The FEIS also fails to emphasize the project area's ecological significance as a habitat corridor connecting higher quality marten habitat and marten populations to the north and south. (Kucera 2005b, p. 2). Zielinski et al. (2005b, Figure 2) display predicted marten habitat suitability in the northern Sierra based upon the best available habitat modeling. Britting (2005b) superimposed Figure 2 from Zielinski et al. (2005b) onto a map of the Creeks project area. This analysis demonstrates that the project area lies directly between two large areas of high suitability for marten to the north and south and provides the best remaining connecting habitat between these two areas. Thus, as Dr. Kucera concludes, "the area potentially serves as an important biological corridor connecting marten populations to the north and south that might otherwise become isolated from one another. However, the map indicates that the project area currently provides only low to moderate quality habitat, suggesting that habitat connectivity is already at risk." (Kucera 2005b, p. 2).

According to the FEIS, local surveys have detected marten within the project area. This is not inconsistent with the findings in Zielinski et al. 2005b, which was based on a systematic survey at a relatively large scale. Zielinski et al. (2005b) acknowledged that there may be "small marten

populations" not detected by their survey. As Dr. Kucera concludes in his statement, "the fact that marten have been detected in the project area emphasizes the ecological significance of the project area, given the findings of Zielinski et al. (2005a) that marten populations are generally absent from large portions of the northern Sierra Nevada." (Kucera 2005b, p. 2). Unfortunately, the Creeks project will threaten the area's value as a connecting corridor:

> Maintaining marten habitat within the Creeks planning area would increase the likelihood of marten becoming reestablished in the area to the south, where they have apparently been extirpated, and thus reestablishing connectivity with marten populations further to the south and north. In contrast, the Creeks Project will further degrade remaining marten habitat, reduce marten populations, and diminish the connectivity of marten habitat in the region, increasing the likelihood that local marten populations will become isolated and potentially extirpated. (Kucera 2005b, p. 2).

B. The Creeks Project Implements the 2004 Framework and QLG Project and Therefore Threatens the Marten's Viability and Distribution.

The Creeks project implements the 2004 ROD and the QLG pilot project. The forest carnivore experts who have reviewed the 2004 Framework have uniformly concluded that the plan threatens the marten's distribution and viability by allowing logging of medium and large trees, reduction in canopy cover, and reduction in large snags and down logs, particularly within the Quincy Library Group pilot project where the Creeks Project is located. (Barrett 2004; Kucera 2004; Buskirk 2003). The U.S. Fish and Wildlife Service has concluded that full implementation of the QLG project "poses a significant threat to the long- term viability of the … American marten due to the loss, degradation, and fragmentation of suitable habitat" (USDI Fish and Wildlife Service 1999, p.16), and according to marten experts "there is no new information that would change these conclusions." (Barrett 2004, p. 11).

Full implementation of the QLG pilot project, as carried out in Creeks and other planned timber sales, would have the following adverse impacts on the marten and its habitat:

- Reduction in suitable habitat: The pilot project would potentially log approximately 64,000 acres of the currently suitable habitat for the marten. (USDA Forest Service 1999a, p. 116). Most of the logged areas will likely be rendered unsuitable for the marten, given the standards allowing logging of large trees and eliminating protection for canopy closure. As expressed by the Fish and Wildlife Service, "the unrestricted reduction in canopy cover and significant reduction of snags and logs on the eastside would reduce potential forest carnivore denning and resting sites." (USDI Fish and Wildlife Service 1999, p. 12).

- Increase in forest openings: The 2004 ROD allows 8,700 acres per year of group selection openings in the QLG area. (USDA Forest Service 2004b, p. 259). Martens are highly vulnerable to forest fragmentation and are generally not found "in landscapes with greater than 25 percent of the area in openings, even where suitable habitat connectivity exists." (USDA Forest Service 2001a, Volume 3, Chapter 3, part 4.4, p. 19). As summarized by Dr. Kucera, as a result of the group selection openings, "any martens that may occur in these

forests will be negatively affected, and such fragmentation will inhibit or prevent future recolonization." (Kucera 2004, p. 3).

- Construction and maintenance of DFPZs. The 2004 Framework allows construction of tens of thousands of acres of DFPZs throughout the pilot project area, reducing and degrading suitable habitat and further fragmenting the remaining habitat. DFPZs are expected to result in "relatively open stands" in which "the forest floor would usually be relatively open, with the exception of occasional large logs" (USDA Forest Service 1999b, p. 2-20), which is antithetical to suitable marten resting and foraging habitat. (Barrett 1999, p. 6). In general, the creation of DFPZs would decrease denning and foraging habitat within the pilot project area. With DFPZ maintenance, this decrease in habitat would be perpetuated.

In short, by significantly increasing both the amount and intensity of logging in the northern Sierra, and by weakening existing protection for marten habitat in the QLG area, the 2004 Framework threatens the viability and distribution of the marten in the planning area, contrary to law. According to marten expert Dr. Steve Buskirk, "the proposed changes would substantively weaken protection … for the American marten. Marked declines in population size and fitness can be reasonably foreseen if the proposal is implemented." (Buskirk 2003). As summarized by Dr. Kucera:

> The plan would change management to increase logging and allow reduction in the number of medium- and large-sized trees, reduction of canopy cover, and reduction of snags and logs. These are precisely the habitat characteristics associated with later-seral stage forests and the presence of martens…. Taken together, these changes would further degrade marten habitat in the northern Sierra, leading to a significant risk of adverse impacts to marten reproduction, survival, and occupancy of the area. Given that the marten's population is already depleted in the northern Sierra Nevada, the proposal would further threaten the marten's viability and distribution in the area." (Kucera 2004, pp. 2-3, emphasis added).

C. The Creeks Project Threatens the Marten's Viability and Distribution in the Project Area and the FEIS Fails Adequately to Analyze this Risk.

The FEIS (p. 183) concedes that Alternative 1 "is likely to have three main indirect impacts to marten within the project area: a reduction in the quality of habitat within the individual home ranges, increased potential for mortality due to predation, and a reduction in the quality of connective habitat for project area ingress and egress." The effects of Alternative 14 are said to be "very similar" (p. 189), with the exception that the FEIS asserts that connectivity would be better protected.

The FEIS concedes that "the potential exists that the local population numbers or the number of home ranges may decrease," and that "the project would affect an unknown number of home ranges." (p. 180). Yet, inexplicably, the FEIS concludes that "it appears that sufficient habitat would be retained across the landscape to allow any existing home ranges to remain viable based on the current understanding of species habitat needs." As Dr. Kucera concludes, this conclusion is not supported by any analysis in the FEIS:

> This assertion is not supported by any analysis of how the project is likely to affect the marten's viability or current distribution. Given that the marten's status in the area is precarious, and that the project area appears to play an important role in providing north-south habitat connectivity, further degradation of the marten's habitat will increase the risk to the marten's viability and distribution in the planning area. (Kucera 2005b, p. 3).

NEPA requires that underlying data and methodology be disclosed; generalized conclusions, in the absence of underlying data, do not suffice to comply with NEPA. *See, e.g., Idaho Sporting Congress v. Thomas,* 137 F.3d 1146, 1150 (9th Cir. 1998); *Sierra Club v. Eubanks,* 335 F. Supp.2d 1070, 1079 (E.D. Cal. 2004)

The FEIS (p. 176) states that "a general lack of population data makes it impossible to determine an approximate number and size of home ranges, whether home ranges overlap, or if there have been changes in populations over time." The marten is a management indicator species ("MIS") under the Lassen LRMP. (Lassen National Forest 1992, App. O). As such, the Forest Service is required by the regulations in effect when the 2004 Framework was developed to monitor the marten's population trend. 36 C.F.R. 219.19(a)(6). In addition, the 2004 ROD incorporates and adopts the monitoring requirements of the 2001 ROD. (USDA Forest Service 2004a, p. 70). The 2001 ROD requires "annual population monitoring" for marten. (USDA Forest Service 2001a, Vol. 4, App. E, p. E-56). By failing to obtain sufficient data to estimate the marten's population and trend in the planning area, the Forest Service has not complied with these requirements.

The FEIS (p. 176) states that "the most limiting habitat component is a lack of high quality den and resting habitat (CWHR 5M and 5D)." Yet, if marten inhabit much of the project area, they must be utilizing some habitat, likely the higher quality 4M and 4D. The FEIS does not acknowledge this or analyze the potential adverse impacts to denning and resting of logging these higher-quality 4M and 4D stands. Therefore, as Dr. Kucera concludes, "it is likely that the Creeks project will degrade 4M and 4D habitat that is actually or potentially suitable for marten denning and resting, yet the EIS fails to analyze or disclose this likelihood." (Kucera 2005b, p. 3).

Habitat connectivity is a particularly serious concern. The DEIS conceded that the proposed action (Alternative 1) would further reduce or eliminate north-south habitat connectivity between the Plumas and Lassen National Forests, thus further isolating marten populations to the north and south. (DEIS, pp. 126-130). This is a serious problem because the private lands to the east of the project area have been heavily logged in the aftermath of the Storrie fire (DEIS, p. 241; Lassen National Forest 2002, p. 118 ("the private lands … that were harvested will remain unsuitable (for forest carnivores) for several decades due to the removal of the majority of material")), and the Forest Service lands to the west will soon be logged pursuant to the Willow project, which is expected to have "similar results" as the Creeks project (FEIS, p. 128). As the Forest Service acknowledged in the Storrie EA, the Storrie fire severely impacted portions of the forest carnivore network and habitat corridors, which "increases the importance of maintaining remaining corridors and linkages between large areas of suitable habitat." (Lassen National Forest 2002, pp. 95-96). Therefore, as Dr. Kucera concluded in his comments on the DEIS, "the cumulative effect of the Creeks project together with recent logging on private lands could be to

eliminate habitat connectivity and discourage marten north-south movement." (Kucera 2005a, p. 4).

These concerns about habitat connectivity are exacerbated by the proposal to log intensively within the habitat management areas that were set aside to protect forest carnivores like the American marten. According to analysis by Britting (2005a), the Creeks project will log 624 acres of the forest carnivore network, including 532 acres that will likely be rendered marginal or unsuitable as marten habitat. According to the forest plan, one purpose for establishing the network was "to provide breeding areas and travel corridors to facilitate movement of individuals and genetic exchange throughout the length of the Forest" (Lassen National Forest 1992a, p. T-1). The FEIS (p. 171) acknowledges that the former Habitat Management Area for marten "contains some of the highest quality habitat within the project area and is considered a likely corridor to access areas of late successional habitat." The Forest Service set these areas aside from scheduled logging based on the fact that the Lassen has "limited suitable furbearer habitat," that "existing habitat is being fragmented by continued logging," and that "there is no research data or other empirical evidence to suggest that we can harvest within furbearer areas and still maintain suitable habitat conditions" (Lassen National Forest 1992a, p. T-2). According to Dr. Kucera, "there is no new scientific information that would change these conclusions." (Kucera 2005a, p. 4). Therefore, as Kucera concluded, "based on the Forest Service's own findings, the proposal to log within the forest carnivore network is likely to further disrupt habitat connectivity, degrade existing habitat, and increase the risk that the marten population will become isolated or extirpated." (Ibid.). Yet the FEIS fails to acknowledge the extent of logging within the HMA or to explain how connectivity can be maintained despite such logging, as we pointed out in our comments.

The Creeks project must comply with applicable land and resource management plans, which includes the Quincy Library Group record of decision. The QLG plan requires that "habitat connectivity … be maintained to allow movement of old forest … species between areas of suitable habitat." (USDA Forest Service 1999c, p. 9). The DEIS conceded that Alternative 1 is likely to disrupt habitat connectivity for the marten in the north-south direction, in violation of this requirement.

The Forest Service now claims that Alternative 14 adequately addresses problems with connectivity that would be caused by Alternative 1. However, as Dr. Kucera explains, this claim is not persuasive, given that the effects of Alternative 14 are acknowledged to be "very similar to Alternative 1."

> In fact, the differences between the two alternatives are small indeed: under Prescription E, Alternative 14 would shift 612 acres to a less intensive logging prescription (retaining 40% canopy cover rather than 30%) and would reduce group selection by 59 acres (FEIS, pp. 23-24). These changes would affect less than 10 percent of the proposed logging and are relatively minor. The assertion that these changes are sufficient to provide habitat connectivity for martens is unsupported by any analysis or data. The map (Figure 3-17, p. 187) purportedly showing "a review of potential connectivity routes addressed in this alternative" is meaningless, comprising a few arrows overlain on an outline of the project area. The descriptions of the areas planned for Prescription E state that they have "high

> amounts of down logs or large rock outcrops that provide ample hiding cover" (FEIS, p. 189), with no information on the amount of down logs or rock outcrops, or why this amount provides "ample" hiding cover. Such meager information is completely insufficient to allow a thoughtful analysis of the project's effects. (Kucera 2005b, pp. 3-4).

To support the argument that the Creeks project will not degrade habitat connectivity, the Forest Service argues that 30% canopy cover is sufficient to support marten travel. (FEIS, p. 178). However, as demonstrated by Dr. Kucera in his comments on the DEIS (Kucera 2005a) and his critique of the FEIS (Kucera 2005b), this claim is not supported by the best available research. The FEIS (p. 178) cites a marten habitat suitability model applicable to "west-central Alberta" (Takats et al. 1999, p. 4). Yet, according to the USDA Forest Service Region 5 guidelines for marten habitat in California, 40-50% canopy cover is the minimum for "low" quality travel habitat, with canopy cover of 50% being the minimum for moderate quality travel habitat and 60% being the minimum for high quality habitat (Freel 1991, p. 4). Similarly, according to the habitat capability model in the Lassen LRMP, even "low" quality marten travel corridors should have at least 40-50% canopy cover. (Lassen National Forest 1992, p. O-13). Therefore, the conclusion in the FEIS that DFPZs "would retain sufficient cover (greater than 30%) to allow [marten] movement through the area" (FEIS, p. 178) is not based on the best available data. By failing to analyze impacts on habitat connectivity based on the more reasonable assumption that a minimum of 40-50% canopy cover is necessary to support marten travel, the FEIS "underestimates the project's likely adverse impacts." (Kucera 2005b, p. 4).

In sum, as Dr. Kucera concludes, "the Creeks Project will further degrade remaining marten habitat, reduce marten populations, and diminish the connectivity of marten habitat in the region, increasing the likelihood that local marten populations will become isolated and potentially extirpated" (Kucera 2005b, p. 2), contrary to law. 36 C.F.R. 219.19.

IV. PACIFIC FISHER

The EIS entirely fails to analyze the potential impacts of the Creeks project on the Pacific fisher and its habitat. The EIS dismisses the Pacific fisher from detailed consideration on the grounds that "the project area provides little or no habitat potential for this species." (FEIS, p. 173). However, as Dr. Kucera explains, this conclusion is unwarranted and the Forest Service's failure to analyze the project's potential impacts on the fisher and its habitat is contrary to NEPA. (Kucera 2005b, pp. 4-6).

The U.S. Fish and Wildlife Service, in its recent finding that the west coast population of the fisher warrants listing under the Endangered Species Act, confirmed the imperiled status of the Sierra Nevada population. "Preliminary analyses indicate West Coast fisher populations, particularly in the southern Sierra, may be at significant risk of extinction because of small population size and factors consequent to small population size such as isolation, low reproductive capacity, demographic and environmental stochasticity." (USDI Fish and Wildlife Service 2004, p. 18789). Fishers "appear to occupy less than half of their known historic range in the Sierra" and are likely "absent on the west, and probably east, side of the range north of Yosemite National Park." (USDA Forest Service 1998, p. 28). The southern Sierra population

appears to be one of only two "extant native populations of the fisher remaining" in the Pacific coast states and appears to be "genetically distinct from fishers in the remainder of North America (Drew et al. 2003)." (USDI Fish and Wildlife Service 2003, p. 41171).

According to the Forest Service, the fisher's failure to recolonize the central and northern Sierra, despite a moratorium on fisher trapping since 1945, is likely due to a combination of insufficient denning habitat, poor quality and fragmented dispersal habitat, and the small size of the fisher's population in the southern Sierra. (USDA Forest Service 1998, p. 28). "The most common opinion among scientists is that loss of structurally complex forest rangewide, the loss of well-distributed large conifers and hardwoods, and the fragmentation of habitat by roads and residential development are responsible for the loss of fishers from the central and northern Sierra and the failure of dispersing animals to recolonize the area." (Ibid.).

There is widespread agreement that the southern Sierra fisher population is not viable in the long term in the absence of efforts to expand the current range and to connect the population with the fisher population in northwestern California. (Barrett 2004, p. 6; Buskirk 2003). "The inability of extant fisher populations to support one another demographically, including those that are isolated by relatively small distances, or to colonize currently unoccupied areas within their historical range, are significant conservation concerns." (Aubry and Lewis 2003, p. 88). "Recolonization of the central and northern Sierra Nevada may be the only way to prevent fisher extinction in the isolated southern Sierra Nevada population." (Truex et al. 1998, p. ii).

Facilitating the fisher's dispersal to, and recolonization of, the central and northern Sierra Nevada requires that habitat be provided to promote connectivity and reduce fragmentation. "Retaining suitable habitat within and outside of the Southern Sierra Fisher Conservation Area is necessary to maintain linkage between the southern Sierra Nevada population and the population in northwest California." (USDI Fish and Wildlife Service 2001, p. 134). "To facilitate recolonization, the Forest Service must provide sufficient habitat for fisher denning, resting, and foraging, and that habitat must be located in a manner that will promote the fisher's occupation of, and movement throughout, the region." (Barrett 2004, p. 6). "The curtailment of habitat connectivity and genetic interchange between the southern Sierra Nevada fisher population and those in northwestern California … may also result in the isolation of the southern Sierra Nevada fisher population, subjecting it to stochastic events and possible extirpation." (USDI Fish and Wildlife Service 2001, p. 134, emphasis added).

The need to promote fisher habitat in the central and northern Sierra is particularly acute given that old forests are "considerably more vulnerable" in this region and generally "occur in scattered, isolated blocks and small patches." (USDA Forest Service 2000, p. 3-7). "The central Sierra Nevada is the most fragmented [region in the Sierra Nevada] with a high number of highway crossings and several areas burned by large, severe wildfires, sometimes occurring across multiple ownerships." (Ibid., p. 3-46). "The loss of structurally complex forest and the loss and fragmentation of suitable habitat by roads and residential development have likely played significant roles in both the loss of fishers from the central and northern Sierra Nevada and the fisher's failure to recolonize these areas." (USDI Fish and Wildlife Service 2004, p. 18778).

The 2004 Framework significantly weakens protection of fisher habitat in the central and northern Sierra. As a general matter, the new standards and guidelines allow significant degradation of potential resting and denning habitat throughout the Sierra Nevada. The likely impact will be to reduce the likelihood of the fisher's recolonization of the central and northern Sierra Nevada. (Barrett 2004, pp. 6-8). As forest carnivore expert Jeff Lewis concluded: "Fuel reduction treatments … to the north of the occupied fisher area … could prevent the expansion and recovery" of the southern Sierra population. (Lewis 2003a, p. 2).

More specifically, the plan allows full implementation of the QLG pilot project, which will significantly increase the amount and intensity of logging in the northern Sierra Nevada beyond that allowed even under the new plan's standards and guidelines. The U.S. Fish and Wildlife Service has expressed its view that full implementation of the QLG project "poses a significant threat to the long-term viability of the California spotted owl, Pacific fisher, and American marten due to the loss, degradation, and fragmentation of suitable habitat." (USDI Fish and Wildlife Service 1999, p. 16). As stated by the Fish and Wildlife Service in its consultation on the QLG pilot project, "the proposed action will disproportionately affect suitable habitat for [the fisher]…. The Service is concerned that the proposed project will preclude recovery of this species within the project area and throughout the Sierra Nevada." (Ibid., p. 11). The Service expressed concerns regarding habitat loss, habitat fragmentation, and effects on prey species. (Ibid., p. 11). The Service expressed particular concerns about construction of DFPZs in the QLG area, which may fragment habitat and limit fisher movement and dispersal, "limiting population expansion and colonization of unoccupied habitat …, thus precluding future recovery options." (Ibid., pp. 11-12).

Zielinski et al. (2005b), in a recent paper, evaluated the extent to which the northern Sierra Nevada, including the project area, provides potential habitat for fisher and may be suitable for fisher reintroduction. Given the urgency of reestablishing the fisher in the northern Sierra, it is important that potential habitat areas be identified and protected. Utilizing a model of fisher habitat based upon areas that fisher currently inhabits, Zielinski et al. (2005b) mapped fisher habitat suitability (their Figure 1) and fisher candidate conservation areas (their Figure 3). Britting (2005b) superimposed Figures 1 and 3 from Zielinski et al. (2005) on the Creeks project boundaries and demonstrated that the Creeks project area is predicted to provide moderate to moderately high habitat quality for the Pacific fisher, based on the methodology in Zielinski et al. (2005b). Similarly, the project area ranks moderate to moderately high as a candidate area for fisher conservation and reintroduction, and is close to one of the two highest ranking conservation areas for fisher. (Britting 2005b). "Given these results, which are based on research from the Forest Service's leading fisher researcher in California, the conclusion in the Creeks EIS that the project area 'provides little or no habitat potential' for the fisher is contrary to the best available research." (Kucera 2005b, p. 5).

The reasons offered in the EIS for dismissing the fisher from consideration do not withstand close scrutiny. First, the FEIS (p. 172) states that "fisher do not appear to overlap with marten" and therefore, because the project area provides habitat for marten, it should not be considered suitable for fisher. This assertion is simply incorrect. As stated in Zielinski et al. (2005b, p. 1): "The literature is replete with references to the potential for negative competitive interactions between the congeneric fisher … and American marten." If the fisher and marten did not inhabit

the same area, there would be no such potential for "negative competitive interactions." Other research, including research in the Sierra Nevada, has documented the fact that fisher and marten can utilize the same habitat. (Krohn et al. 1997 (noting fisher and marten overlap in Sierra Nevada); Krohn et al. 2004, pp. 127-28). Fisher are also know to prey on marten, which would not be possible if the two species were not sympatric. (Krohn et al. 1997, pp. 228-29; Takats et al. 1999). Although fisher in the Sierra Nevada generally use lower elevation habitat than marten, the Forest Service's monitoring report on fisher and marten reports that the two species overlap in the elevation ranges that they utilize. (USDA Forest Service 2005). In short, as Dr. Kucera finds, "it is apparent that fisher and marten can and do occur in the same area, and the dismissal of fisher from consideration in the EIS on this basis is unwarranted." (Kucera 2005b, p. 6).

Second, the FEIS (pp. 172-73) also cites snow depth in the project area as a reason "to preclude the project area from being considered suitable habitat" for fisher. Although snow depth may put fishers at a competitive disadvantage relative to martens during winter, the research does not support the assertion in the FEIS that snow depth "precludes" fisher use. Krohn et al. (1997), in a paper cited in the FEIS, discussed the relationship between fisher, marten, and snow depth in California. The paper explored the "hypothesis" that "deep snowfall can limit fisher … populations" (Krohn et al. 1997, p. 211). However, Krohn et al. emphasized that their "small-scale analyses … do not prove that deep snows limit fisher" (p. 230) and that "there is no absolute line between suitable and unsuitable habitats, but instead an ever-shifting zone of varying degrees of suitability" (p. 226). The authors (p. 229) also present reasons other than snow depth that might explain the fisher's apparent absence from the central and northern Sierra Nevada, including the hypothesis that "mining and timber harvesting in the Sierras reduced habitat quality, possibly through fragmentation and the reduction of structural diversity." Other research cited in the FEIS, such as Raine (1983; cited in Krohn et al. 2004, p. 26), while finding that "fishers were hindered more than martens by soft snow" has documented fisher use of areas covered by snow.

Although snow depth may generally be "a handicap to fisher movements" (Zielinski et al. 2005b, p. 1), the best available research does not support the assertion in the FEIS (p. 173) that snow depth "preclude[s] the project area from being considered suitable habitat." Instead, snow depth is one factor among many to consider in determining the relative quality of habitat for fisher.

In sum, as Dr. Kucera finds, "the literature does not support the proposition that snow depth renders the project area unsuitable for fisher." (Kucera 2005b, p. 6). Nor does the presence of marten in the project area negate the area's value as fisher habitat. Based on the analysis in Zielinski et al. (2005b), the project area is considered to provide moderate to moderately high habitat quality for fisher, and it is close to one of the two top areas for fisher reintroduction in the northern Sierra. Finally, the project area is likely important to facilitate the fisher's recovery from its imperiled status and to prevent further decline and possible extinction of the species in the Sierra Nevada, and implementing the project is likely to degrade the existing habitat. For all of these reasons, the Forest Service's decision not to analyze the impacts of the Creeks project on the fisher and its habitat is unsupported and contrary to the best available research, and the Forest Service's failure to take a hard look at this issue violates NEPA.

V. FAILURE TO CONSIDER REASONABLE ALTERNATIVES AND TO TAKE A HARD LOOK AT ALTERNATIVE LOGGING PRESCRIPTIONS

NEPA and the CEQ regulations require that the Forest Service "[r]igorously explore and objectively evaluate all reasonable alternatives." 40 C.F.R. § 1502.14(a). The requirement that agencies consider all reasonable alternatives "is at the heart of the environmental impact statement." 40 C.F.R. § 1502.14. The purpose of this requirement is to "sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decisionmaker and the public." *Id.* NEPA also "requires that federal agencies take a 'hard look' at the environmental consequences of their actions," *California v. Norton*, 311 F.3d 1162, 1168 (9th Cir. 2002), and that "a federal agency consider every significant aspect of the environmental impact of a proposed action," *The Lands Council v. Powell,* 395 F.3d 1019, 1026 (9th Cir. 2005).

The Creeks EIS fails to comply with these requirements by failing to analyze and consider whether the project's fire and fuel objectives can be met with less intensive logging prescriptions that would protect medium and large trees and maintain higher levels of canopy cover. Specifically, as described by fire ecologist Carol Rice (2005) in her attached statement, the EIS fails to analyze in detail alternatives that would protect trees greater than 20" diameter and maintain canopy cover at 50 percent or greater, despite substantial scientific evidence indicating that such alternatives could meet the project's purpose and need.

Other than the "no action" alternative, which is specifically required by law, the DEIS failed to analyze in detail any alternatives, despite the fact that numerous reasonable alternatives were suggested by commenters. Although the FEIS added another alternative, Alternative 14, the FEIS repeatedly states that the impacts of Alternative 14 are "very similar" to those of Alternative 1, the proposed action in the DEIS. Moreover, because the Forest Service did not recirculate the DEIS to include this additional alternative, the public never had the opportunity to comment on Alternative 14 as required by NEPA.

Because the EIS fails to consider any alternatives with higher canopy cover and lower diameter limits, including an alternative based on the 2001 Framework, the EIS fails to comply with NEPA.

A. The EIS Should Have Considered Reasonable Alternatives Involving Less Intensive Logging.

The purpose and need for the Creeks project is to implement the QLG pilot project through DFPZs, group selection, and area thinning in a way that will reduce the risk of catastrophic wildfire. (ROD, p. 1). At the same time, the project is intended to address significant public concerns regarding impacts on the California spotted owl, American marten, and old forest habitat. According to the ROD (p. 4), Alternative 14 "was developed to address that issue and assure that those habitat characteristics would be maintained, while meeting the purpose and need for treatments." (ROD, p. 4).

The central issue raised by the Creeks FEIS is whether and how the Forest Service's fuels reduction and other goals can be achieved while avoiding significant adverse impacts to wildlife

that inhabit old forests. The Forest Service asserts that owl habitat is "at a greater risk of being lost to wildfire than the proposed treatments" (ROD, p. 5), but the FEIS entirely fails to consider whether the Forest Service's fuels objectives can be attained with fewer adverse impacts to wildlife habitat.[3] Numerous commenters on the DEIS argued that fuels objectives can be met with less adverse impacts to wildlife by retaining higher canopy cover (e.g., 50 percent) and by not logging medium and large trees (e.g., trees >12-20" diameter), and urged the Forest Service to analyze such alternatives. (See, e.g., Blakesley 2005a; Kucera 2005a; Odion 2005; Hanson 2005).[4] Unfortunately, the FEIS fails to take a hard look at this issue. Instead, the FEIS simply assumes, without any analysis, that providing greater canopy cover or leaving more medium and large trees "would compromise the effectiveness of the DFPZs." (FEIS, p. 37). The Forest Service's failure to examine this issue carefully, and to analyze alternatives with higher canopy cover and greater protection for medium and large trees, violates NEPA.

There is substantial evidence indicating that it is not necessary to reduce canopy cover to 40 percent or below or to remove trees up to 30" dbh, as proposed in the Creeks project, to reduce the risk of catastrophic wildfire. Much of this evidence is cited in the Campaign's appeal of the 2004 ROD, which was incorporated in our scoping comments on the Creeks project. (SNFPC et al. 2004, pp. 62-71). Forest Service analysis of other QLG logging projects has demonstrated that fuels reduction objectives can be satisfied utilizing a 20" dbh limit, rather than the 30" dbh limit in the proposed action. (Tahoe National Forest 2005, pp. 12-14; Lassen National Forest 2004). No such analysis is included in the Creeks EIS.

Fire ecologist Carol Rice, in her attached statement, provides a detailed review of relevant scientific literature and case studies demonstrating that the goal of reducing catastrophic wildfire and promoting fire resilient forests can be met without logging trees up to 30" diameter or reducing canopy cover to 40 percent or below, as proposed in the Creeks project. (Rice 2005). Thus, for example, Stephens and Moghaddas (2005a) studied a range of treatments on the Blodgett Forest in the central Sierra Nevada as part of the Forest Service's national Fire and Fire Surrogate study. They found that all studied treatments effectively reduced surface fire behavior and crown and torching indices while maintaining canopy cover in excess of 50 percent. Similarly, in a different study in the same area, Stephens and Moghaddas (2005b) concluded that thinning from below was more effective at reducing predicted mortality in trees up to 51 cm diameter when compared with any type of silvicultural treatment resulting in plantations and individual tree selection, despite the fact that canopy cover in the thinning from below treatment was 57 percent.

Although the Creeks EIS fails to analyze the effectiveness of thinning that would retain greater canopy cover and protect larger trees than proposed in Alternative 14, the EIS does state that the fire behavior results of proposed area thinning "would be similar" to those for proposed DFPZs. (FEIS, p. 105). This is significant, because the area thinning would retain greater canopy cover

[3] The ROD (p. 5) also claims that logging over the past 30 years "appears to be compatible with active, productive spotted owl territories," but this assertion ignores the fact that the owl's population in the project area appears to be declining, as described above.

[4] Brobeck, on behalf of Butte Environmental Council, specifically requested that the Forest Service model fire behavior under Alternatives 3 and 4, which would protect medium and large trees and provide increased canopy cover. (FEIS, p. C-31). Despite this request, the Forest Service failed to conduct such an analysis and dismissed these alternatives from detailed consideration.

than the DFPZs. (FEIS, pp. 14-19). Therefore, although the issue is not analyzed in the EIS, the clear implication is that fuels reduction goals can be achieved while retaining greater canopy cover than proposed in the DFPZs.

Analyzing alternatives that would protect medium-large trees and maintain higher levels of canopy cover is important because these are key attributes of old forests, and protecting these elements would reduce adverse impacts to wildlife that inhabit such forests, such as the California spotted owl. For this reason, the owl scientists who reviewed the Creeks project have urged the Forest Service to consider alternatives that would achieve fuels objectives while maintaining owl habitat:

> The Forest Service asserts that owl habitat is "at a greater risk of being lost to wildfire than the proposed treatments" (ROD, p. 5), but the FEIS fails to consider whether the Forest Service's fuels objectives can be attained with fewer adverse impacts to owl habitat. Specifically, the FEIS fails to consider in detail any alternative that would retain greater canopy cover (e.g., 50 percent) and would protect medium and large trees (e.g., trees greater than 20 inches diameter). Such an alternative would have significantly fewer adverse effects to owl habitat while still achieving the Forest Service's goal of reducing the likelihood of stand-replacing wildfire. (Bond 2005, p. 5; see also Blakesley 2005b, pp. 2-3).

In conclusion, as Rice finds in her review, "the best available science indicates that the project's Purpose and Need can be met by treatments that limit diameter of trees removed to 20 inches and maintain a canopy closure greater than 50%."

> Treatments that focus on surface and ladder fuels with crown fuel reduction associated with thinning trees smaller than 20 inches have proven to be quite effective in numerous other places. Omitting these types of alternatives that have scientific support and demonstrated success is a significant fault in the FEIS of the Creek Project. <u>By failing to even analyze such treatments in the Creeks FEIS, the Forest Service overlooked an effective approach to fuels reduction that would retain the structural aspects of old forests, such as larger trees and more complete canopy cover</u>. (Rice 2005, p. 5).

B. <u>The EIS Should Have Included an Alternative Based Upon the 2001 Framework.</u>

The EIS should have included an alternative that implements the 2001 Framework.
In our scoping comments and in our comments on the DEIS, we explained in detail why an alternative based on the 2001 Framework is a reasonable alternative that must be included in the EIS. In response, the FEIS (p. 35) states that the 2001 ROD has been "superceded" by the 2004 ROD and that an alternative based on the 2001 ROD "would not be consistent with the 1993 Lassen LRMP, as amended by the 2004 SNFPA ROD." The FEIS does not explain how or why an alternative based on the 2001 ROD would be inconsistent with the 2004 ROD, so we cannot respond to this claim in detail. However, with limited exceptions, the QLG pilot project can be implemented consistent with the 2001 ROD. (USDA Forest Service 2001b, p. 50). Moreover, NEPA requires consideration of all reasonable alternatives, even alternatives that might require a change in law, policy, or regulation.

An alternative based on the 2001 ROD is a "reasonable alternative" as that term is used in NEPA, for several reasons. First, there is strong support for the 2001 ROD within the scientific community, federal and state agencies, and the public. As demonstrated in the Campaign's administrative appeal of the 2004 ROD, leading researchers on the California spotted owl, Pacific fisher, and American marten have criticized the 2004 ROD and urged the Forest Service to implement the 2001 ROD instead. *See, e.g.,* Verner 2003; Blakesley and Noon 2004; Noon 2004; Peery 2004; Bond 2003; Franklin *et al.* 2003; Barrett 2004; Kucera 2004; Lewis 2003a, 2003b; Buskirk 2003). The overwhelming opinion of leading wildlife experts in support of the 2001 ROD demonstrates that an alternative consistent with the 2001 ROD requires consideration in the EA or EIS for this project.

Second, the U.S. Environmental Protection Agency, in its scoping comments on similar projects, has specifically requested that the Forest Service evaluate an alternative that would implement the 2001 Framework and "include a description of the various environmental, social and economic issues, and the pros and cons of each management approach." (U.S. EPA 2004). As noted by EPA, "public debate continues regarding the scientific basis for; the fuel management, environmental and social benefits of; and the adverse effect associated with the 2004 SNFPA ROD versus the Sierra Nevada Framework." Therefore, EPA urged the Forest Service to "reconsider whether to evaluate an alternative which would implement the 2001" Framework.

Third, there is enormous public support for the 2001 ROD, including over 6,000 administrative appeals of the 2004 ROD.

Fourth, a 2001 ROD alternative needs to be considered to "sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decisionmaker and the public." 40 C.F.R. § 1502.14. As discussed in the expert comments submitted by Dr. Tom Kucera, "[a]n obvious alternative that should be analyzed is one based on the 2001 Framework…. Such an alternative would have a much less adverse impact on marten populations and habitat connectivity while meeting the project's purpose and need." (Kucera 2005a, p. 5). Similarly, Dr. Blakesley states in her comments:

> The choice to be made should not be whether to do *one* thing or do nothing. Rather, a variety of treatment options should be presented, including at least one that retains at least 40-50% canopy cover in all suitable owl foraging habitat, at least one option that limits the diameter of harvested trees to 20" or less, and at least one that does not include group selection harvesting. In particular, the EIS should model an alternative based upon the 2001 SNFPA, which incorporates several of these features. This would allow decision makers and the public to fairly evaluate a variety of timber harvest alternatives with respect to fire, insect pests, mistletoe, wildlife, recreational, and other considerations. (Blakesley 2005a, p. 4).

The need for consideration of alternative management approaches is particularly apt given the Forest Service's acknowledged uncertainty regarding implementation of different strategies. For example, the Forest Service's QLG Administrative Study for the pilot project states that "key uncertainties" remain regarding "the effects of landscape-scale fuels treatments strategies that

thin large areas of forest on CSO density, population trends, and habitat suitability at the landscape scale and how thinning effects habitat quality at the core area/home range scale." (USDA Forest Service 2002). The Forest Service's uncertainty regarding the proper course of action makes its review of alternatives that propose different approaches to meeting Forest Service goals all the more important.

VI. PILEATED WOODPECKER AND OTHER MANAGEMENT INDICATOR SPECIES

A. Pileated Woodpecker.

In our comments on the DEIS, we argued that the EIS failed to consider, analyze, and disclose the project's likely adverse impacts to the pileated woodpecker. The FEIS suffers from the same deficiency. The FEIS (p. 41) asserts that the Creeks project "would have little impact" on pileated woodpecker habitat and "no effect to species or population trends." This assertion is plainly wrong. Because the Creeks project will degrade pileated woodpecker habitat by removing snags and medium and large trees and by reducing canopy cover, some adverse impact to the species and its habitat is inevitable, as biologist Terry Preston concludes in her appeal of the Creeks project. (Preston 2005b). By failing to take a hard look at this issue, the FEIS violates NEPA.

The Lassen National Forest has designated the pileated woodpecker as a "management indicator species" (MIS) because of its association with large snags and dense canopy forests. (Lassen National Forest 1992b, p. 3-98). According to the Lassen forest plan, the pileated woodpecker's preferred habitat includes an abundance of large snags greater than 20-25" dbh. (Lassen National Forest 1992a, p. O-17). Current snag densities within the project area are approximately 2-3 snags/acre, which is "below the Forest guidelines of 4 snags/acre in mixed conifer communities and 6 snags/acre within red fir communities" and far below the estimated historic snag density of 6-14 per acre. (FEIS, pp. 130-131). Despite this shortage of snags, Alternative 1 would result in "a general reduction in the number of snags within the areas treated," and Alternative 14 would have "similar" results, with the predicted loss of snags being "slightly less."[5] (FEIS, pp. 132, 134). The FEIS (p. 205) acknowledges that "nest sites are limited due to snag declines from previous management activities." Given the pileated woodpecker's close association with large snags, a further reduction in snag levels within the project area will necessarily degrade the woodpecker's habitat and is likely to adversely affect the woodpecker's population in the area, contrary to the claims in the FEIS of "no effect." (Preston 2005b).

The assertion of "no effect" is not well supported and is not consistent with other information in the EIS and the best available research. As a general matter, the research indicates that logging can have a "significant impact on habitat" and that "[r]emoval of large-diameter live and dead trees, of downed woody material, and of canopy closure eliminates nest and roost sites, foraging habitat, and cover." (Bull and Jackson 1995). For example, the QLG EIS reports that implementing the QLG project would significantly reduce habitat value for the pileated

[5] In addition, the project is predicted "to result in healthier conifers that are more resistant to disease and therefore snag recruitment may decline slightly within the treated stands" in the future. (FEIS, p. 133).

woodpecker, by 23-35 percent. (USDA Forest Service 1999b, p. AA-19). "Given that the Creeks project implements the QLG pilot project, it is reasonable to assume that the site-specific impacts would be similar." (Preston 2005b). In any event, the Creeks FEIS fails to explain why the Creeks project will have "no effect" on the pileated, when the QLG project is predicted to have a significant negative impact. The Creeks DEIS (p. 218) discloses that "reductions in decadence (snag and down logs) could adversely affect some populations of … woodpeckers." Given that the pileated woodpecker is closely associated with snags, there is no reason why such an "adverse effect" will not occur to the pileated woodpecker.

The FEIS's conclusion of "no affect" to pileated woodpeckers was based on the assumption that retaining one snag/acre over 20" dbh is sufficient "to meet suitability standards." (FEIS, p. 206). However, the assumption that providing only one large snag per acre will meet the pileated woodpecker's habitat needs does not reflect the best available research. The Lassen National Forest's own wildlife habitat capability model for the pileated woodpecker describes areas containing fewer than 3 snags/acre greater than 20" dbh as providing only "low" or "marginal" habitat for the woodpecker. (Lassen National Forest 1992a, p. O-17). Instead, the pileated woodpecker requires habitat with greater than 3 large snags/acres. (Ibid.). PRBO Conservation Science, in their study module on landbirds in the Plumas-Lassen area, stated that "snags are a critical component of forest ecosystems" and recommended that "as many snags as possible" be retained, with an "absolute minimum" of 4 snags/acre, with "priority given to the largest ones." (Burnett et al. 2005, p. 23). Thus, the fact that snags in the project area will exceed 1 snag/acre after the project is implemented in no way supports a finding of "no effect."

The FEIS (p. 206) cites Bull et al. (2005) for the proposition that "fuels reduction projects do not necessarily preclude use by pileated woodpecker, if sufficient down wood and snags are retained." However, as the FEIS notes, Bull et al. did find "that there was a decrease in use within the treated stand." Moreover, the study focused on pileated woodpecker foraging and did not address nesting or roosting. Given that nest (and roost) sites are limited in the project area (FEIS, p. 205), and that removing medium and large snags will further limit nest and roost sites, nothing in Bull et al. suggests that the Creeks project will not adversely affect the pileated woodpecker and its habitat.

Finally, the FEIS (p. 204) concedes that "there is no local data on population numbers." Yet, under the 2004 ROD (which adopts the monitoring requirements of the 2001 ROD), the pileated woodpecker is listed as an MIS species for which "population trend data is expected to be obtained" (USDA Forest Service 2001a, Vol. 4, P. E-64), beginning with "a period of annual population monitoring" (ibid., p. E-63). Therefore, as discussed further below, the failure to obtain monitoring data for the pileated woodpecker and other MIS is contrary to law.

B. Lack of Monitoring and Population Data for MIS

In our comments on the DEIS, we argued that the Forest Service had failed to obtain the monitoring and population data that is required by regulation and by the agency's own plans. (SFNPC et al. 2005, pp. 15-16). In response, the Forest Service concedes that "to date no specific information on the results of the monitoring [required by the 2001 and 2004 Framework] have been made available." (FEIS, p. C-93, Response to Comment 32-46).

As the Ninth Circuit recently affirmed, NFMA "requires that the Forest Service identify [MIS], monitor their population trends, and evaluate each project alternative in terms of the impact on both [MIS] habitat and [MIS] populations." *The Lands Council v. Powell*, 379 F.3d 738 (9th Cir. 2004). In certain circumstances, the Ninth Circuit has allowed the Forest Service to utilize the so-called "proxy on proxy" approach, in which analysis of habitat trends for MIS can substitute for analysis of actual population trends. "Crucial to this approach, however, is that the methodology for identifying the habitat proxy be sound…. If the habitat trend data is flawed, the proxy on proxy result, here species population trends, will be equally flawed." Ibid.; see also *Sierra Club v. Eubanks*, Civ. S 03-1238, Memorandum and Order, p. 21 (E.D. Cal. August 20, 2004)("Habitat analysis is an acceptable substitute for population trend data if there is enough underlying data to support such an analysis, along with any resulting conclusion that the project area includes enough habitat essential for survival of the MIS species in question…. Here there appears to be a lack of such underlying data.").

The analysis of impacts on management indicator species (MIS) is legally inadequate for several reasons. First, the Lassen NF lacks baseline data to support the conclusions in the EIS. The National Forest Management Act and its regulations (36 CFR § 219.19 (a) (2) & (6)) require the Forest Service to evaluate the habitat and population trends of management indicator species in the planning area. The Forest Service Manual (FSM 2620) also requires the Forest Service to monitor habitat conditions for MIS and to maintain their viability. The FSM and NEPA (40 CFR § 1508.7) requires that the Forest Service assess the cumulative impacts to MIS species. Here, however, the Creeks FEIS lacks benchmark habitat and population data for the management indicator species. (Preston 2005b).

Without information on benchmark conditions for MIS in the planning area, the Forest Service cannot make a scientifically supportable finding as to the health or viability of the indicator species. Baseline data is essential to establishing any long-term monitoring program. Without pre-project monitoring and acquisition of data, it is impossible for the Forest Service to link the impacts with the activity (cause and effect). (Preston 2005b) As discussed by Preston in her comments on the DEIS and in her appeal, this informational gap is particularly critical regarding certain MIS such as mule deer, grey squirrel and the woodpecker group.

Second, as discussed by Preston in her comments on the DEIS (Preston 2005a), the Forest Service has still not conducted a meaningful review of the impacts of the QLG pilot project on a variety of wildlife including the Lassen MIS. The 1999 QLG FEIS section AA-18 identifies changes in habitat values for MIS in the pilot project area. Many of these predicted changes indicate significant adverse cumulative impacts and threat to viability of a number of MIS species. For example, the Grey Squirrel is expected to see a 45% reduction in habitat due to group selection logging and a 9% reduction in habitat due to DFPZ construction. Pileated Woodpecker is expected to see a 35% reduction in habitat due to group selection and a 23% reduction due to DFPZ construction. The Creeks EIS fails to assess the cumulative impacts from the QLG project to forest plan MIS which migrate through, disperse young, and utilize habitat within and outside the project area. The MIS analysis is flawed for not considering the forest plan level cumulative impacts while utilizing forest plan level indicators and for failing to assess impacts from the HFQLG Pilot Project program of work.

Third, the Creeks FEIS fails to meet forest plan requirements for the monitoring of MIS in the 2004 ROD. The 2004 ROD incorporates and adopts the monitoring requirements of the 2001 ROD. (USDA Forest Service 2004a, p. 70). The 2001 ROD identifies MIS and SAR where population tracking and monitoring of population trend is "expected annually." (USDA Forest Service 2001a, Vol. 4, Appendix E, Tables E9, E10, E11). As shown in Preston 2005a, the Creeks DEIS fails to mention or address impacts to the expanded MIS/SARs list in the 2001 ROD, which is part of the Forest Service's management responsibility under the 2004 SNFPA ROD; the FEIS fails to correct this deficiency. There is also no evidence in the record showing the region, forest or district has met the annual population monitoring requirement. Since the Creeks EIS lacks necessary monitoring or population trend data, its conclusions regarding impacts to wildlife are unsupported, and the project is not consistent with the 2004 ROD.

In sum, Preston concludes:

> [T]he Lassen National Forest fails to provide an adequate scientific foundation to support the conclusions regarding impacts to MIS/SARs. There is a serious lack of scientific integrity and necessary information regarding baseline conditions, population trend, species movement, habitat use and specific life cycle needs for these at-risk species. It is my professional opinion that without significantly improved data-based analysis of the Creeks project's impacts, you are operating outside the current legal and scientific standards which guide today's forest management on federal land. (Preston 2005a).

VII. CUMULATIVE IMPACTS

EISs are required to consider cumulative impacts, which are the impacts on the environment from the proposed action "when added to other past, present, and reasonably foreseeable future actions regardless of what agency … or person undertakes such other actions." 40 C.F.R. § 1508.7. The Ninth Circuit has recently clarified NEPA's cumulative impacts requirement in two decisions, both of which overturned Forest Service timber sales for failing adequately to consider cumulative impacts. *See Klamath-Siskiyou Wildlands Center v. BLM,* 387 F.3d 989 (9th Cir. 2004); *The Lands Council v. Powell,* 379 F.3d 738 (9th Cir. 2004). The Creeks FEIS fails to meet the standards articulated by the Ninth Circuit in these cases and therefore is not consistent with NEPA.

To comply with NEPA, an EIS must discuss the environmental impacts of past, present, and proposed logging; a mere listing of projects and acreage, in the absence of specific analysis of the environmental impacts of the projects, is inadequate. "[T]he 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." *The Lands Council,* 379 F.3d at 745. In particular, the EIS must include "discussion of the connection between individual harvests and the prior environmental harms from those harvests." *Id.* at 744. The EIS also needs to provide "adequate data of the time, type, place, and scale of past timber harvests." *Id.* at 745.

It is essential that the cumulative effects analysis provide "quantified or detailed information; … [g]eneral statements about possible effects and some risk do not constitute a hard look." *Klamath-Siskiyou,* 387 F.3d at 993. Thus, for example, EISs need to include "quantified assessment" of the "combined environmental impacts" of the various projects considered, *id. at 994.* Not only does the cumulative effects analysis need to provide quantified data with respect to factors such as the amount of spotted owl habitat that will be affected, i*d.* at 994 n.1, but "the effect of this loss on the spotted owl" throughout the planning area also needs to be analyzed. *Id.* at 997.

The Creeks EIS falls far short of these standards. Appendix A to the FEIS contains a list of past, present, or reasonably foreseeable future projects, but fails to include any analysis of the environmental impacts of these projects. Although the FEIS elsewhere addresses some aspects of cumulative effects, this discussion fails to meet NEPA's standards that the particular environmental impacts of past projects, with emphasis on how different logging approaches affected the environment, be analyzed.

IV. REQUEST FOR RELIEF

For the foregoing reasons, the Creeks ROD and FEIS fail to comply with the National Forest Management Act, the National Environmental Policy Act, and other federal laws. Therefore, we request that the Appeal Deciding Officer overturn the decision.

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Respectfully submitted,

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