

July 11, 2005

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Dear Mr. Vazquez:

These comments on the Creeks Forest Health Recovery Project Draft Environmental Impact Statement (DEIS) are submitted on behalf of the Sierra Nevada Forest Protection Campaign and the Sierra Club. We have previously submitted comments on this project, dated July 9, 2004 and March 15, 2004, and hereby incorporate these comments by reference.

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. Therefore, for the reasons set forth in our appeal of the 2004 ROD and FSEIS, the Creeks project as currently designed is also contrary to law.

I. OVERVIEW AND SUMMARY

The Creeks project proposes intensive and widespread logging within an ecologically significant area and will adversely affect the area's environmental values, particularly habitat for old forest associated species such as the California spotted owl and American marten. The project proposes to log 10,435 acres, including 5,905 acres of DFPZs, 3,285 acres of thinning, and 1,245 acres of group selection. (DEIS, p. 12). Most of the proposed logging will degrade or eliminate suitable habitat for old forest associated species.

The DEIS fails to disclose the ecological significance of the project area and the extent to which the Creeks project will degrade those values, as required by NEPA. GIS analysis by Britting (2005) reveals that proposed logging overlaps with areas determined by the Forest Service and others to be ecologically sensitive, including old forest emphasis areas (OFEAs), areas of concern (AOCs) for the California spotted owl, owl home range core areas (HRCAs), and a habitat network for forest carnivores. The DEIS does not mention that the project would log within the OFEAs established by the 2001 and 2004 Framework, but Britting's analysis shows that approximately 8,828 acres of OFEA would be logged.

The DEIS states that the project area is "generally south of an area of concern" for the owl. (DEIS, p. 110). In fact, based on the Forest Service's own GIS data, the Creeks project would log approximately 551 acres of AOC 2. (Britting 2005). This area of concern includes "a gap in known distribution" for the owl that "extends east-west in a band almost fully across the width of

the owl's range." (Verner et al. 1992, p. 48). Thus, logging within this area could exacerbate concerns regarding the owl's distribution and the connectivity of habitat, yet the DEIS fails to disclose logging within the AOC, contrary to NEPA. See 40 C.F.R. § 1500.1(b)(EIS must include "accurate scientific analysis" and "high quality" information).

The DEIS also fails to emphasize that the Creeks project will log a substantial amount of the habitat management areas set aside in the Lassen LRMP to protect forest carnivores such as the American marten and Pacific fisher. 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). These areas "are important to maintaining landscape level connectivity from north to south in a region where habitat quality is presently fragmented and of marginal quality." (Britting 2005). The Creeks project will log approximately 624 acres of the Lassen furbearer network. (Britting 2005). As stated in the Lassen LRMP, "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). Despite this concern, the Creeks DEIS fails to disclose or analyze the impacts to the forest carnivore network and its habitat values, contrary to NEPA.¹

The DEIS also fails to disclose the fact that the Creeks project proposes substantial logging with spotted owl HRCAs. HRCAs are ecologically important because they include "the best available California spotted owl habitat in the closest proximity to the owl activity center." (USDA Forest Service 2004a, p. 39). The Creeks project proposes substantial logging within these areas. (Britting 2005). Yet the DEIS fails even to acknowledge that logging will occur in HRCAs, much less to analyze the impacts to individual HRCAs as required by NEPA.

According to the DEIS, a key purpose of the Creeks project is to reduce the risk of catastrophic wildfire and promote healthier forests. (DEIS, pp. 9-10). Yet the DEIS fails to consider a range of logging plans that could achieve these goals, and instead only considers the proposed action and no action. This failure to explore all reasonable alternatives makes it impossible to assess resource tradeoffs and to determine the most effective plan, contrary to NEPA.

The DEIS also fails to take a hard look at the project's likely impacts, including cumulative impacts of past and proposed timber sales and impacts on California spotted owl habitat. For these and other reasons detailed below, the Creeks DEIS fails to comply with applicable laws and should be revised and circulated for additional public comment.

II. NATIONAL FOREST MANAGEMENT ACT

The Creeks project fails to comply with the National Forest Management Act (NFMA) and the applicable forest plans, for the following reasons.

¹ Although the forest carnivore network is no longer a land allocation under the 2004 ROD, the ecological and habitat values that were recognized by the Forest Service in designating the network must still be recognized and analyzed in the EIS.

A. The Creeks Project Threatens the Viability of the 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. 70 Fed. Reg. 35607 (June 21, 2005).

The 2004 ROD 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 new plan threatens the owl's viability throughout the Sierra Nevada and contributes to a trend towards federal listing.² (Verner 2003; Blakesley and Noon 2003; 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.

There is substantial cause for concern regarding the owl's status, particularly in the northern Sierra Nevada where the demographic studies strongly suggest a declining population trend. (Blakesley 2005, p. 1). In particular, as Dr. Jennifer Blakesley concludes in her comments, "timber harvesting under the HFQLG [Act] raises significant concerns with respect to the status of the California spotted owl."³ (*Ibid.*, p. 2).

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

² These reviews are included as part of the Campaign's appeal of the 2004 ROD, which we have previously submitted to the Forest Service and which we hereby incorporate by reference into these comments. (SNFPC et al. 2004).

³ A copy of Dr. Blakesley's comments are attached to these comments.

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 HFQLG 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 2003, 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.

The Creeks project poses a particular threat to the owl because of the large amount of logging within owl territories and HRCAs. According to the DEIS (p. 112), the Creeks project would render unsuitable approximately 3,716 acres of owl habitat. Moreover, the percentage of existing suitable habitat that will be rendered unsuitable is substantial in some owl territories; for example, 26 percent of existing suitable habitat will be rendered unsuitable in PL121, 15 percent in PL215, and 13 percent in PL048.

The DEIS (p. 109) assumes that only 1,000 acres of suitable habitat is required for a given owl territory to remain viable. However, this figure is significantly too low, based on the best available research and past Forest Service analysis.

During the QLG EIS process, the Forest Service undertook a home range analysis to assess potential impacts on owl home ranges. The analysis assumed, based on research by Bart (1995), that 50 percent suitable habitat represented a threshold value, and that home ranges with less than 50 percent suitable habitat would be less likely to support owl pairs. (USDA Forest Service 1999a, p. 83). Based on a home range size of 4,500 acres on the Almanor Ranger District (DEIS, p. 109), each home range should include 2,250 acres of suitable habitat to meet this threshold level. The analysis in the DEIS shows that most owl territories currently lack 2,250 acres of suitable habitat, and only 3 of 19 territories will include 2,250 acres of suitable habitat after the Creeks project is implemented. (DEIS, p. 112). Moreover, the effect of implementing the Creeks project will be to reduce the amount of suitable habitat within 5 of the 19 territories from greater than 2,250 acres to less than 2,250 acres. (*Ibid.*). Therefore, based on the Forest Service’s own analysis in the QLG EIS process, there is serious cause for concern regarding lack of suitable habitat in owl territories, and the Creeks project will exacerbate this problem.

Blakesley’s research on the Almanor Ranger District, including the Creeks Project area, found that the composition of 2010 acre Core Areas averaged 32% in CWHR 5D and 5M, plus 45% in 4D and 4M. (Blakesley 2005, p. 3). This amounts to an *average* of nearly 1550 acres of “suitable” spotted owl habitat immediately surrounding spotted owl territory centers, which is significantly more than the 1,000 acres that the Creeks DEIS claims is sufficient for the entire territory.

Furthermore, as summarized by Dr. Blakesley in her comments, there is substantial evidence that logging within owl home ranges, and particularly within owl home range core areas (HRCAs),⁴ can contribute to reduced survival, reduced fecundity, and other adverse effects on the owl. Blakesley’s research within the Creeks project area showed that owl survival increased as the amount of suitable habitat increased within 500 acres and 2010 acres of the owl activity center, and that “both spotted owl site occupancy and reproductive output decreased with increasing amounts of non-habitat within 500 acre areas around site centers.” (Blakesley 2005, p. 3). Blakesley also specifically examined the owl’s status within many of the territories in the Creeks

⁴ The DEIS fails to analyze the impacts of the project on owl HRCAs. However, analysis by Britting (2005) shows that the project will log approximately 3,000 acres within HRCAs. As noted below, the DEIS fails to assess or disclose the impacts of such logging, contrary to NEPA.

project area. She found that several owl territories became vacant following logging on Forest Service and private lands, and that “these cases provide evidence that habitat loss outside of PACs is associated with reduced numbers of spotted owls within the Creeks Project area.” (Blakesley 2005, p. 2).

Given the size of owl home ranges and the proximity of proposed logging to owl PACs, Dr. Blakesley estimates that “the loss and degradation of foraging habitat would be likely to impact most, if not all, of the spotted owls in the planning area.” (Blakesley 2005, p. 5). As Dr. Blakesley concludes, “it would be irresponsible to knowingly degrade and remove spotted owl habitat in the name of ‘Forest Health Recovery’ when viable alternatives exist for restoring forest stands to pre-fire suppression conditions.” (Ibid., p. 6).

In sum, full implementation of the QLG project pursuant to the 2004 ROD would threaten the viability of the California spotted owl, and implementing the Creeks project as currently designed would contribute to this risk, contrary to law.

B. The Creeks Project Threatens the Viability and Distribution of the American Marten and Pacific Fisher.

As described in the attached comments of forest carnivore expert Dr. Tom Kucera (Kucera 2005), the Creeks Project threatens the viability and distribution of the American marten and Pacific fisher within the project area and the surrounding national forest.

1. American Marten.

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 concludes, “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 2005, p. 2).

Particularly on the west slope of the Sierra Nevada, where the Creeks project is located, martens are closely associated with dense canopy forests. In general, martens prefer dense forests with canopy cover of 70 percent or greater and avoid relatively open forests with canopy cover of 40 percent or less. Martens are also known to avoid fragmented forest, that is, forest with many open areas.

Overall, the Creeks Project proposes to treat approximately 10,435 acres, much of which currently supports marten. (DEIS p. 120; Figure 3-3). Table 3-30 of the DEIS states that the Project will render unsuitable 2,656 acres of moderate and high-quality marten habitat. This includes 1,245 acres of group selection, which will add to the existing openings in the project area. As acknowledged in the DEIS (pp. 129, 131), this habitat reduction and fragmentation make it likely that the Creeks project will reduce the marten population.

In addition, the proposed habitat loss and fragmentation will 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 particular concern because the private lands to the east of the project area have apparently 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”). 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 concludes, “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 2005, 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 (2005), 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 forest plan 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 2005, 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.*).

The Creeks project must comply with applicable land and resource management plans, which includes the Quincy Library Group record of decision. (DEIS, p. 9). 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 concedes, and Dr. Kucera confirms, that the Creeks project is likely to disrupt habitat connectivity for the marten in the north-south direction. Therefore, the Creeks project is inconsistent with the applicable land and resource management plan, as well as with NFMA and the Forest Service’s planning regulations, and cannot be implemented as currently proposed.

By reducing the amount of marten habitat and increasing the percentage of forest openings, the Creeks Project is likely to adversely affect the marten, particularly when considered together with other past, present, and planned logging within the Quincy Library Group pilot project area. 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 new 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).

In sum, "the Creeks Project could adversely affect the American marten, potentially leading to isolation and extirpation of local marten populations" (Kucera 2005, p. 6), contrary to law.

2. Pacific Fisher.

The Pacific fisher is a forest carnivore that is closely associated with older forests with medium and large trees, dense canopy cover, and abundant large snags and down wood. The Creeks project would degrade fisher habitat by logging medium and large trees, reducing canopy cover, removing large snags and down logs, and fragmenting the remaining forest.

The USDI Fish and Wildlife Service (USFWS) concluded that the fisher warrants protection under the Endangered Species Act. The USFWS (USDI Fish and Wildlife Service 2004, p. 18788) cited loss and fragmentation of habitat and further decline and isolation of populations as the primary threats to the fisher, and questioned the adequacy of the 2004 Sierra Nevada Forest Plan Amendment to protect fisher habitat. The USFWS specifically mentioned "timber harvest, fuels reduction treatments, and road construction" on federal lands as threats to fisher "distribution, abundance, and recovery/recolonization potential." (*Ibid.*). Under these circumstances, the fisher's habitat in the Sierra Nevada requires protection and restoration, not further degradation. Unfortunately, as Dr. Kucera concludes, "the Creeks project will further degrade fisher habitat, threatening the fisher's viability and contributing to the present trend towards extinction." (Kucera 2005, p. 5).

As mentioned briefly in the DEIS (p. 120), the fisher's current distribution in California comprises two populations, one in the southern Sierra Nevada and the other in the Klamath Province, separated by some 260 miles. This isolated population structure is a major reason that the USDI Fish and Wildlife Service decided that the fisher warranted listing as threatened or endangered. The DEIS (p. 120) states "Suitable fisher habitat is similar to that described for marten (Table 3-29)", yet on p. 123 states "Based on habitat preferences the project area provides very limited habitat for this species therefore the project would have little or no affect (sic) on the totality of habitat within its former range. Because neither individuals nor suitable habitat would be affected, the fisher is not further analyzed in this document." If suitable fisher habitat is similar to that of marten, and if there is marten habitat throughout the project area, then there is likely to be suitable fisher habitat. As Kucera concludes, "[t]he decision to eliminate fishers from analysis in the document, based on a contradiction, is unsupportable." (Kucera 2005, p. 6).

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 2004a, 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).

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 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 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.

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).

In sum, by allowing significantly increased logging in the central and northern Sierra Nevada, particularly within the QLG pilot project area, the 2004 Framework will reduce the likelihood of the fisher’s dispersal to and recolonization of this area, thereby threatening the viability of the fisher throughout the Sierra Nevada. (Barrett 2004; Kucera 2004). The Creeks project, which implements the QLG plan and 2004 ROD, substantially contributes to this risk. (Kucera 2005).

The Creeks project area appears to be particularly important in reestablishing habitat connectivity for the fisher. As described by Britting (2005) and discussed below, the DEIS fails to disclose or analyze the amount and intensity of past, present, and proposed logging on private lands within and near the Creeks project area. However, the Storrie Fire EA suggests that private lands to the east of the project area have been heavily logged, rendering habitat unsuitable for forest carnivores. This information is not disclosed or assessed in the Creeks DEIS, making it impossible to assess the landscape-level impacts on the fisher of implementing the project.

Because the project area is surrounded on the east by heavily logged industrial timberlands, it comprises important potential habitat providing north-south connectivity for fisher, as well as marten. Therefore, as Dr. Kucera concludes, “degrading the habitat that currently exists, as proposed in the Creeks project, is likely to increase risks to fisher recovery and reduce the likelihood of establishing a viable population within the project area and throughout the Sierra Nevada.” (Kucera 2005, p. 6).

C. The Creeks Project Proposes to Harvest at an Intensity Within RHCAs That Is Inconsistent With the Forest Plan.

Harvest activities in the Riparian Habitat Conservation Areas (RHCAs) are regulated by the direction in the 2004 ROD. (USDA Forest Service 2004a). The 2004 ROD directs the HFQLG forests to follow the SAT guidelines as presented in Appendix L of the HFQLG FEIS. (*Ibid.*, p. 67). These guidelines provide for the removal of timber from RHCAs only when necessary to “acquire desired vegetation characteristics needed to attain Riparian Management Objectives.” (USDA Forest Service 1999b, p. APP L-12). Further, the SAT guidelines explicitly “prohibit scheduled timber harvest” in RHCAs and “prohibit activities in Riparian Habitat Conservation Areas that are not designed specifically to improve the structure and function of the Riparian Habitat Conservation Areas and benefit fish habitat.” (USDA Forest Service 1999b, p. APP L-11). These directives mean that the RHCAs are to be harvested only if that activity maintains or restores the natural structure and function of the area.

The proposed action violates the direction in the SAT guidelines in two ways. First, this alternative establishes a purpose that is not consistent with the SAT guidelines. One of the stated purposes of the DFPZ treatments that will be applied to the RHCAs in the Creeks Project is “providing fire suppression personnel safe locations for taking actions in the event of a wildfire.” The SAT guidelines do not allow for the modification of RHCAs to meet non-riparian habitat

needs. And in fact, reducing canopy cover to 30% in RHCAs⁵ will likely degrade the existing microclimate and habitat. (Ibid., p. L-9).

Second, the Creeks project proposes logging at an intensity beyond what is necessary to meet the Riparian Management Objectives. Recent research and numerous project analyses completed by the Forest Service have demonstrated that achieving substantial increases in fire resiliency do not require a reduction in canopy cover below 50% and the removal of trees between 20” and 30” dbh. (SNFPC et al. 2004, pp. 63-71; Lassen National Forest 2004; Plumas National Forest 2005a). Furthermore, modeling results with respect to reducing stand densities and increasing the size of the residual trees for other projects near the Creeks Project area indicate that appropriate stand densities can be achieved with less intensive thinning. (Plumas National Forest 2005b, p. 27). Thus, the objectives supported by the SAT guidelines to increase fire resiliency and improve forest health are likely to be achieved by limiting reduction of canopy cover to 50% and to retaining trees over 20” dbh.

In sum, adopting a management objective of ease of fire prevention access in RHCAs and logging more aggressively in the RHCAs than necessary to meet the objectives are violations of the SAT guidelines and the forest plan.

D. The Creeks Project Violates the SAT Guidelines by Failing to Propose Measures That Will Restore Large Woody Debris.

The intent of the SAT Guidelines is to “maintain or restore good habitat over broad landscapes.” (USDA Forest Service 1999b, p. APP L-3). An expected part of project development is to propose mitigation measures to improve habitat conditions. The DEIS identifies that most stream reaches have only a “fair” amount of large woody debris with some having portions of the stream channel rated as “good” for large woody debris. (DEIS, pp. 160-161). Live trees between 20” and 30” dbh are being removed within and near to RHCAs when they could be left standing to serve as future recruitment of large wood or felled to provide large woody debris today. The result of such a measure could be to increase the rating for large woody debris from “fair” to “good” thereby restoring habitat condition as directed by the SAT guidelines. Thus, the proposed activities, such as the removal of larger trees from riparian areas that presently have insufficient large wood, violates the SAT Guidelines and the Riparian Management Objective that directs the restoration and maintenance of channel integrity. This, in turn, violates the forest plan.

E. The Project Does Not Appear to Comply with Plan Requirements Relating to Snags, Canopy Cover, and Basal Area Retention.

The Creeks project also appears to be inconsistent with other forest plan requirements relating to snag retention, canopy cover, and basal area retention. At a minimum, these issues need to be clarified before the project is finalized.

⁵ There is some inconsistency between the description of the proposed action for RHCA treatment (DEIS, pp. 42-44) and the assumptions about treatment prescriptions made in the analysis of effects to streams environments (p. 165). This inconsistency will be addressed in the section of these comments on NEPA issues.

First, the 2004 ROD requires the Forest Service to “determine snag retention levels on an individual project basis” and to “consider the following guidelines for large-snag retention . . .” (USDA Forest Service 2004a, p. 69). Based on our review of the Creeks DEIS (pp. 34, 36, 38, 45-46), we were unable to find any numeric snag-retention levels or to find that the Forest Service considered the specific large-snag retention standards identified in the 2004 ROD. With respect to DFPZs, the DEIS (p. 34) states that “snags would be retained following the snag retention guidelines for this project,” but a review of those guidelines (DEIS, pp. 45-46) does not reveal any numeric or other snag retention standards. With respect to area thinning, the DEIS (p. 36) states that “snags would be retained at 2-6 per acre following the snag retention guidelines for this project,” but those guidelines appear to lack any direction regarding the size of snags that must be retained.

The DEIS (p. 45) discloses that “in most areas snags are below the recommended numbers and do not meet the Forest LRMP.” Because sensitive species like the California spotted owl, American marten, and pileated woodpecker require an abundance of large snags, it is essential that the project clearly delineate standards for retention and recruitment of large snags. “Snags should be tallied by size, species, and decay class, and prescriptions for snag retention within thinned areas should specify sizes of snags to be retained, with an emphasis on retaining the largest snags available.” (Blakesley 2005, p. 4). The proposed action should be modified and clarified to include specific standards for snag retention, giving consideration to the standards recommended in the 2004 ROD.

Second, the project’s canopy cover retention standards also appear inconsistent with the 2004 ROD. Within area thin units, the 2004 ROD requires that projects retain at least “50% canopy cover after treatment averaged within the treatment unit, except where site-specific project objectives cannot be met,” when a 40% standard applies. (USDA Forest Service 2004a, p. 69). By comparison, the Creeks DEIS (p. 38) states that canopy cover “would be retained near 50% and would not be reduced below 40%” in such units. The DEIS fails to demonstrate that “site-specific objectives cannot be met” utilizing a 50 percent canopy cover retention standard, or to require such a showing within individual units. Moreover, a requirement of “near” 50% is impermissibly vague and does not comply with the 2004 ROD’s 50% retention standard.

The 2004 ROD also includes standards that limit the amount by which canopy cover can be reduced under different prescriptions. For example, in DFPZs within CWHR 5M, 5D, and 6, the Forest Service must “avoid reducing pre-treatment canopy cover by more than 30%.” (USDA Forest Service 2004a, p. 68). A similar requirement applies to area thinning. (*Ibid.*, p. 69). The Creeks project must comply with these requirements, yet based on our review of the proposed action we were unable to find any reference to them.

Finally, the 2004 ROD also includes basal area retention standards for different prescriptions. (USDA Forest Service 2004a, pp. 68-69). Depending upon the timber strata type, these basal area retention standards can translate into upper diameter limits well below 30” dbh. (Verner et al. 1992, p. 23). Again, the Creeks proposed action does not appear to refer to these basal area retention standards, to specify how they will be applied in individual units, or to explain how the standards will translate into upper diameter limits that will protect medium and large trees. Given that most stands within the project area are “understocked with medium and larger sized

trees” (DEIS, p. 86), it is particularly important that retention standards for larger trees be clearly articulated in the proposed action.

F. The Analysis of Management Indicator Species is Inadequate.

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 DEIS. 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 DEIS lacks benchmark habitat and population data for the management indicator species. (Preston 2005).

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 2005) As discussed by Preston, this informational gap is particularly critical regarding certain MIS such as mule deer, grey squirrel and the woodpecker group. (*Id.*)

Second, the Forest Service has still not conducted a meaningful review on the impacts of the H-F QLG pilot project on a variety of wildlife including the Lassen NF 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. (Preston 2005). 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 DEIS 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 DEIS 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 2005, 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. There is also no evidence in the record showing the region, forest or district has met the annual population monitoring requirement. Since the Creeks DEIS 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 2005).

III. NATIONAL ENVIRONMENTAL POLICY ACT

The Creeks DEIS fails to comply with NEPA for the following reasons. The Forest Service should revise the DEIS to address these concerns and circulate the revised DEIS for additional public comment.

A. The DEIS Violates NEPA By Failing to Consider Reasonable Alternatives.

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.*

The Creeks DEIS fails to comply with this requirement. Other than the "no action" alternative, which is specifically required by law, the DEIS fails to analyze in detail any alternatives, despite the fact that numerous reasonable alternatives were suggested by commenters. Moreover, the reasons offered in the DEIS for eliminating alternatives from detailed review are neither persuasive nor legally sufficient.

In our scoping comments dated March 15, 2005, we explained in detail why an alternative based on the 2001 Framework is a reasonable alternative that must be included in the DEIS. In response, the DEIS (p. 49) states that the 2001 ROD has been “superseded” 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 DEIS 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.

The revised DEIS should consider alternatives with lower diameter limits (e.g., 12-20” dbh, depending upon land allocation) and higher canopy cover retention standards (e.g., 50 percent). 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). Moreover, the best available research indicates that the Forest Service’s fuels reduction objectives can be met without logging trees greater than 20” dbh or reducing canopy cover below 50 percent. (SNFPC et al. 2004, pp. 62-71).

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 2005, 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 2005, 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.

B. The DEIS Fails Adequately To Consider the Project’s 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 DEIS 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, *id.* 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 DEIS falls far short of these standards. Thus, for example, with respect to past logging on national forest lands, the EIS merely lists the names and total acreage of various projects within the analysis area. (DEIS, pp. 240-41). The DEIS provides no information about the nature of past logging, such as the standards and guidelines used, but rather only describes the logging as “timber harvest.” *Id.* Completely absent from the EIS is any analysis of the environmental impacts of these projects, the amount of habitat that was lost or degraded, or how this loss of habitat affected sensitive species such as the California spotted owl or American marten. Because the Creeks DEIS entirely lacks “discussion of the connection between individual harvests and the prior environmental harms from those harvests,” it falls short of NEPA’s requirements. *The Lands Council*, 379 F.3d at 744.

The discussion of present and proposed logging on national forest lands is similarly flawed. Although the EIS provides the names of the projects on national forest lands and their acreage, it lacks any analysis of the environmental impacts of the projects, including the “quantified assessment” of “combined environmental impacts” required by NEPA. *Klamath-Siskiyou*, 387 F.3d at 994. As stated by Dr. Blakesley in her comments:

Cumulative effects of past timber harvest and other management actions are not adequately addressed in the Creeks Project DEIS. Appendix A of the DEIS simply lists the names, dates, and acres of past timber harvest. The Appendix should also disclose the type of logging used (prescriptions) and acres of pre-and post harvest cover types affected. This should be followed by a discussion of the environmental impacts of past logging, including quantification of the amount of spotted owl habitat improved, degraded, or lost through past management actions. (Blakesley 2005, pp. 4-5).

Similarly, Dr. Kucera states in his comments with respect to the American marten:

The DEIS fails to include the kind of information and analysis that would be necessary for a thorough and careful evaluation of the Creeks Project’s cumulative impacts on the marten. For example, the DEIS does not include a map displaying the location of past, present, and planned projects within and in the vicinity of the Creeks project area that are likely to affect marten habitat. The DEIS simply lists sixteen timber sales that have occurred since the 1980s, and presents a small-scale map (Figure 3-4, p. 128) showing polygons of presumed marten habitat before and after implementation of the Creeks

Project. Nor does the DEIS analyze the amount of marten habitat that will be lost if other planned projects are implemented. The one-sentence reference to the proposed “Willow Project” (DEIS, p. 131) simply mentions the possibility of further habitat reduction and loss of habitat connectivity to be expected from it. As a result, the DEIS does not adequately disclose the extent to which such other projects may cumulatively affect the distribution and connectivity of habitat. Similarly, the DEIS does not disclose the extent to which these projects will create additional forest openings, thereby contributing to forest fragmentation and decrease in the quality of marten habitat. This is insufficient for a thorough and careful evaluation of the Creeks Project’s cumulative impacts on the marten. (Kucera 2005, p. 4).

The discussion of private land logging within the analysis area is particularly deficient. The DEIS (p. 241) acknowledges that approximately 5300 acres of private lands affected by the Storrie Fire were logged in 2000 and 2001. However, the DEIS lacks any information regarding the nature and intensity of such logging or its environmental impacts, such as the amount of habitat for sensitive species that was degraded or lost. The Storrie Fire EA states that “the private lands ... that were harvested will remain unsuitable (for forest carnivores) for several decades due to the removal of the majority of material” (Lassen National Forest 2002, p. 118), and that snag retention on these private lands was “far” less than 4 snags per acre (*id.*, p. 100). The cumulative impacts of this past logging, together with other logging of private lands in the analysis area, needs to be analyzed and disclosed in the Creeks DEIS. (Kucera 2005, p. 5).

With respect to ongoing and proposed activities on private lands, the DEIS (p. 242) acknowledges that there are “several large parcels of private land within the project boundary” but lacks any description or analysis of logging activities on these lands. The DEIS estimates that 10 percent of these lands will be logged per decade, “using an intermediate cut,” but fails to provide the basis for this estimate, to describe what an “intermediate cut” entails, or to analyze the likely cumulative impacts of such logging on wildlife habitat, watershed values, and other environmental values.

As demonstrated in our appeal of the 2004 ROD (SNFPC et al. 2004, pp. 95-98), it is especially important that the cumulative impacts of private land logging be considered. The California Spotted Owl Federal Advisory Committee, in reviewing the RDEIS, found that consideration of intermingled ownerships was inadequate. “Conditions and activities on non-Forest Service lands within and adjacent to the national forests were not considered in analysis of species viability, cumulative effects on watershed values, and in the evaluation of proposed roads. Without consideration of such effects it is difficult to assess the quality of owl habitat within the national forests or the effect of the proposed activity on watershed or aquatic health.” (Philpot et al. 1997, p. 3-4). The Committee found that, where information about private land management was not available, “at the very least, assumptions about non-public lands must be explicit in order to complete adequate cumulative effects analysis in the EIS.” (*Ibid.*).

The Forest Service’s internal review of the Framework DEIS also emphasized the need to consider cumulative effects, particularly the effects of private land management, in assessing species viability:

Consider cumulative effects, combining conditions on Forest Service lands with conditions on non-Forest Service lands and other “off-site” stressors outside control of the Forest Service. Where little information is available on other lands, be clear about the assumptions being made concerning those lands, and how that assumption affects the projection of likelihood of maintaining populations on Forest Service lands. Such analysis is necessary NEPA disclosure of cumulative effects. It also is important to determining how, under different alternatives, National Forest System lands might serve as “anchors” or “strongholds,” providing for certain species in ways that might maintain more management flexibility on non-federal lands. (Iverson 1999, emphasis added).

By contrast, the cumulative impacts of private land logging were essentially ignored in the Creeks DEIS, contrary to NEPA.

D. The DEIS Fails to Take A Hard Look at the Project’s Likely Environmental Impacts.

1. Structural Attributes of Old Forests.

The information and analysis in the DEIS with respect to the impacts of the Creeks project on the structural attributes of old forests – snags, canopy cover, and medium-large trees – is incomplete, inconsistent, and misleading. Therefore, it is not possible to accurately assess the project’s likely impacts on old forest habitat and associated species, such as the California spotted owl, American marten, and pileated woodpecker. NEPA requires that information in an EIS be “accurate” and “of high quality,” 40 C.F.R. § 1500.1, and that EISs provide “full and fair discussion of significant environmental impacts,” 40 C.F.R. § 1502.1. The failure to include accurate and complete information in the Creeks DEIS with respect to snags, canopy cover, and medium-large trees is therefore contrary to NEPA.

a. Canopy cover. Canopy cover is an important element of old forest structure because species like the California spotted owl and American marten are closely associated with dense canopy cover. Moreover, relatively small differences in canopy cover are ecologically significant: for example, canopy cover of 40 percent is considered at best marginally suitable for owl foraging, whereas canopy cover of 50 percent or greater is widely considered to be suitable. (USDA Forest Service 2001a, Vol. 3, Chapter 3, part 4.4, p. 73; USDA Forest Service 2004b, p. 275). Similarly, with respect to American marten on the adjacent Tahoe National Forest, the marten generally prefers canopy cover of 40-60%, while avoiding canopy cover of 30% or less. (Kucera 2005). Therefore, an accurate assessment of impacts on canopy cover is essential to an analysis of a project’s likely impacts on old forest structure and associated species.

The information in the Creeks DEIS with respect to the project’s impacts on canopy cover is misleading and confusing. For example, with respect to canopy cover remaining within DFPZs, the DEIS is contradictory: the DEIS states that average canopy cover would be reduced to “near 40%” (pp. 64-65), “would generally average between 30-50%” (p. 34), and “would generally average between 40-50%” (p. 36). Similarly, with respect to canopy cover in the area thinning units, the DEIS states that canopy cover “would be retained near 50%” (p. 38), would average “near 45 percent” (p. 69), and would be “near 40%” (p. 68). As noted above, the difference between canopy cover of 30, 40, and 50 percent is ecologically significant; therefore, it is

essential that the EIS include accurate and consistent information with respect to the project's impacts on canopy cover. Beyond that, the 2004 ROD requires that reductions in canopy cover be limited to 30 percent in certain prescriptions (USDA Forest Service 2004 a, pp. 68-69), but the Creeks proposed action fails to refer to or incorporate this requirement.

The information in the DEIS regarding canopy cover retention within RHCAs is particularly misleading. The DEIS analyzes the effects of the proposed action on stream condition based on the assumption that "RHCA prescriptions would retain trees larger than 30 inches and canopy cover would not be reduced below 40-50%." (DEIS, p. 165). However, the description of the alternative (*Ibid.*, pp. 42-44) in no way limits the reduction of canopy cover throughout the RHCAs to 40-50%. Minimally, ground disturbance limitations are placed on the "inner zone" (i.e. 50 or 150 feet from the stream channel) of the RHCA with prescriptions C and H being applied. Prescriptions C and H maintain 40-50% canopy cover. The "outer zone" of the RHCA (i.e. the area between 50 feet and 100 feet from an ephemeral stream and 150 feet to 300 feet from a perennial stream) would be subject to "the appropriate DFPZ or area thinning prescription." (*Ibid.*). This means that portions of the RHCA that are located within DFPZs could be reduced to as little as 30% canopy cover. Such a result will have markedly different effects on microclimate, soil temperature and other environmental factors important to the riparian environment. Such effects were not disclosed in the DEIS.

b. Snags. The information in the DEIS with respect to snag retention is similarly flawed. First, as discussed above, the DEIS fails to specify the project's snag retention levels, as required by the 2004 ROD. (USDA Forest Service 2004a, p. 69). Without this information, it is not possible to assess the project's likely adverse impacts on habitat values. Beyond that, the DEIS acknowledges that the number of snags is generally less than the recommended level in the planning area (p. 104), and discloses that "there would be a general reduction in the number of snags within the areas treated" (p. 106), but then confusingly asserts that "it is estimated that ... snag numbers ... would continue to increase within the project area as a whole" (p. 106). The DEIS fails to disclose the basis for predicting that snags will increase.

The DEIS also fails to distinguish between the sizes of snags, despite the fact that species like the pileated woodpecker and American marten preferentially utilize large snags, which are generally less available. Because the DEIS refers to snag decay class only, without reference to the size of snags, the "information presented ... is not very useful." (Blakesley 2005, p. 4). In sum, an adequate analysis would specify large snag retention levels, analyze the number and sizes of snags likely to remain after the project is implemented, disclose the basis for such predictions, and analyze likely impacts on wildlife. The DEIS fails adequately to address any of these issues and therefore fails to meet NEPA's requirements.

c. Medium-large trees. The DEIS fails accurately to disclose the effects of the Creeks project on medium-large trees (20-30" dbh). The DEIS discloses that the project will utilize a 30" dbh limit, but the 2004 ROD also imposes a requirement that 30-40 percent of existing basal area (depending upon prescription) be retained, "generally comprised of the largest trees." (USDA Forest Service 2004a, pp. 68-69). Depending upon existing stand structure, these basal area retention standards can translate into an effective diameter limit below 30". (Verner et al. 1992, p. 23). However, the DEIS fails to disclose the impact of the basal area retention standard

on retention of medium and large trees. Medium-large trees, with diameters of 20-30", contribute significantly to habitat for old forest associated species like the California spotted owl and American marten (Kucera 2005; Blakesley 2005), and are generally understocked within the project area (DEIS, p. 86). Therefore, it is important that this information be disclosed and analyzed in the EIS.

2. The California Spotted Owl and Its Habitat.

The DEIS fails adequately to assess the Creeks project's likely impacts to the California spotted owl and its habitat. In particular, the DEIS lacks any analysis of the project's impacts to owl home range core areas (HRCAs), but instead assumes incorrectly that protecting 1000 acres within each owl territory is sufficient to avoid impacts to resident owls. The failure to include essential information and analysis in the EIS violates NEPA.

California spotted owl home range core areas (HRCAs) were established as land allocations in the 2001 and 2004 ROD. Although the land allocation does not technically apply during the duration of the QLG pilot project, the HRCAs remain ecologically important because they include "the best available California spotted owl habitat in the closest proximity to the owl activity center." (USDA Forest Service 2004a, p. 39). The 2001 Framework strictly limited logging within HRCAs based on the recognition that spotted owls preferentially use core areas within their home ranges (Bingham and Noon 1997) and that degrading habitat within HRCAs will likely reduce owl survival and reproductive success (Bart 1995; USDA Forest Service 2001a, Volume 3, Chapter 3, part 4.4, pp. 92-93). As stated in the Framework FEIS, "increasing the number of owl sites with desired amounts of habitat is likely important to stabilizing current population declines." (*Ibid.*, p. 92).

Because of the ecological importance of HRCAs, the Pacific Southwest Research Station's Science Consistency Review urged the Forest Service to reveal the number of HRCAs that would be logged and the amount of habitat that would be degraded within individual HRCAs. (Stine and Keane 2003, pp. 4, 6). Unfortunately, neither the 2004 FSEIS nor the Creeks planning documents include this essential information. As stated in the FSEIS for the 2004 Framework: "The SEIS spatial analysis could only provide an approximation of potential treatments to HRCAs because the exact location of treatments units (and the amount of treatment overlap with HRCAs and the amount of suitable habitat affected) would only be known during site-specific planning." (USDA Forest Service 2004b, Vol. 2, p. 45). The Forest Service has analyzed project impacts to individual owl HRCAs in other QLG projects, such as Meadow Valley and Basin on the Plumas National Forest (Plumas National Forest 2004a, pp. 85-90; Plumas National Forest 2004b, p. 50), and the information is available in the Forest Service's GIS data base. (Britting 2005). There is no justifiable reason for failing to include this essential information in the Creeks EIS.

The DEIS (p. 109) analyzes the project's impacts on owl territories based on the assumption that "a minimum of approximately 1,000 acres of suitable habitat is required for a given territory to remain viable." However, not only is this figure too low (as demonstrated above), but this analysis is not functionally the same as assessing impacts to HRCAs, for two reasons. First, HRCAs are located within "the closest proximity to the owl activity center" (USDA Forest

Service 2004a, p. 39), whereas the analysis in the DEIS considers all habitat anywhere within the owl territory to be equivalent. Because research indicates that habitat closer to the activity center is ecologically more important, this is a significant difference. Second, HRCAs must include “the best available California spotted owl habitat” (*ibid.*), which places a priority on owl nesting habitat over owl foraging habitat, whereas the analysis in the DEIS lumps all suitable habitat together.

In sum, only by assessing impacts to individual owl HRCAs can the Forest Service determine the likelihood of adversely affecting owl pairs and the resulting impact on the broader owl population. Therefore, this information needs to be included in the revised DEIS.

The DEIS is also flawed because it appears to contain erroneous and misleading information about the “area of concern” identified by owl scientists. The DEIS (p. 110) states that “the project occurs generally south of an area of concern (AOC 2).” In fact, analysis by Britting (2005), based on GIS data supplied by the Forest Service, indicates that the Creeks project would log approximately 551 acres within AOC 2. Therefore, the project could exacerbate the problems regarding habitat fragmentation that prompted the identification of the area of concern by owl scientists. This important discrepancy needs to be corrected.

Further, as described by Britting (pp. 3-4), the Creeks project together with other planned projects in the vicinity will “reduce the suitability on many thousands of acres of nesting and foraging habitat for” the owl within the area between AOC 2 and AOC 3. The extent of this logging raises the possibility that the areas of concern will need to be expanded due to habitat fragmentation and connectivity concerns. (Britting 2005, p. 4). This potential cumulative impact needs to be addressed in the EIS.

3. American marten.

The DEIS fails to take a hard look at the project’s likely impacts on the American marten.

As described by Kucera (2005), the DEIS (p. 126) asserts that the 30% canopy cover to be maintained in Prescription B is sufficient “to allow movement through an area,” citing Thompson and Harestad (1994). This assertion is based on weak evidence. On page 123, the DEIS states “Thompson and Harestad (1994) found marten avoided forests with less than 30% canopy cover and preferred a canopy of 50-75%.” Thus, according to the Thompson and Harestad (1994) figures, 30% canopy coverage is a bare minimum that may be tolerated, not a goal to be achieved to maintain martens. Further, the Thompson and Harestad paper is a review of literature, not original research, and their canopy-cover figures are assumptions. Original research conducted on the Tahoe National Forest found that “...marten throughout the study area preferred stands with 40-60% canopy closure at both resting and foraging sites, and avoided stands with less than 30% closure” (Spencer et al. 1983, p. 1183). Thus, as Kucera concludes, “forests with 30% canopy closure should be regarded as not adequate to provide even moderate marten habitat.” (Kucera 2005, p. 3). The description of Prescription B in the DEIS (p. 35), however, contains no standards for minimum canopy retention, so even the marginal habitat provided by 30% canopy cover is not assured.

4. Pileated woodpecker.

The DEIS fails to take a hard look at the project's likely adverse impacts to the pileated woodpecker. 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).

At the outset, the DEIS concedes that "there is no local data concerning local population trends for this species." (DEIS, p. 141). 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 earlier, the failure to obtain monitoring data for the pileated woodpecker and other MIS is contrary to law.

The Creeks DEIS (p. 15) estimates that the project would have "no affect" on the pileated woodpecker or its population trend. However, this conclusion is not well supported and is not consistent with other information in the EIS and the best available research. For example, the QLG EIS reports that implementing the QLG project would significantly reduce habitat value for the pileated woodpecker, by 23-35 percent. (USDA Forest Service 1999b, p. AA-19). Elsewhere, the Creeks DEIS (p. 218) discloses that "reductions in decadence (snag and down logs) could adversely affect some populations of ... woodpeckers."

The DEIS'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." (DEIS, p. 142). However, the assumption that providing only one large snag per acre will meet the pileated woodpecker's habitat needs is based on an outdated 1983 report that 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.).

The DEIS discloses that "in most areas snags are below the recommended numbers and do not meet the Forest LRMP" (p. 45) and that "there would be a general reduction in the number of snags within the areas treated" (p. 106). Therefore, it appears that large snag levels, which are already deficient, will be further reduced if the Creeks project is implemented. Based on the pileated woodpecker's habitat requirements, such a reduction in large snags is likely to adversely affect the species and its population. Therefore, the conclusion in the DEIS that the Creeks project will have "no affect" on the woodpecker is implausible, and fails to reflect the "hard look" at environmental impacts required by NEPA.

5. Fire and fuels.

As discussed in the comments of Dr. Dennis Odion, the information and analysis in the DEIS regarding the impacts of the Creeks project on fire and fuels issues is inadequate. (Odion 2005). For example, the DEIS fails to disclose information regarding the severity of wildfires, fails to discuss the results of recent research indicating that logging medium and large trees is not necessary to reduce risk of catastrophic wildfire (Stephens and Moghaddas 2005), fails adequately to assess the extent to which group selection units and unmaintained DFPZ units may add to wildfire risk, and fails to address a range of reasonable alternative strategies for reducing the risk of stand-replacing wildfire. Please see the comments of Dr. Odion for more detailed discussion of these issues.

IV. CONCLUSION

For the foregoing reasons, the Creeks DEIS and the proposed action fail to comply with the National Forest Management Act, the National Environmental Policy Act, and other federal laws. The DEIS should be revised to comply with NEPA, and the revised DEIS should be circulated for additional public comment.

Thank you for considering our comments. Please contact us if you would like to discuss our concerns.

Respectfully submitted,



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