Sierra Forest Legacy
Protecting Sierra Nevada Forests and Communities

January 17, 2012

Jerry Bird, Forest Supervisor
Almanor Ranger District- Attn: Creeks II Project
P.O. Box 767
Chester, CA 96020

Sent via U.S. mail and email: comments-pacificsouthwest-lassen@fs.fed.us

Re: Comments on the Draft Environmental Impact Statement for the Creeks II Forest Restoration Project

Dear Mr. Bird:

These comments on the Draft Environmental Impact Statement (DEIS) for the Creeks II Forest Restoration Project are submitted on behalf of Sierra Forest Legacy and Sierra Club. As you know, our organizations have a long history of involvement with this project, including several comments on an earlier version of the project (Creeks), an administrative appeal of that project, and litigation which resulted in a ruling that the project and associated environmental impact statement were contrary to law. *Sierra Nevada Forest Protection Campaign v. Tippin*, 2006 WL 2583036 (E.D. Cal. 2006). We hereby incorporate by reference our prior submissions relating to the Creeks project, together with the accompanying expert statements.

We have joined several meetings and field trips with the Forest Service to discuss the project's land allocations and logging prescriptions since the litigation noted above. We recognize that there have been some changes to the project since that time. Unfortunately as we noted in the letter to Forest Supervisor Kathleen Morse (Sierra Forest Legacy and Sierra Club 2009), the changes to Alternative 3 do not fully address the issues we have raised about the project and are not sufficient to address our concerns about maintaining population viability for California spotted owl and American marten. Our concerns with the project and analysis are described in detail below. We find that that Alternatives 2 and 3 would jeopardize the persistence of California spotted owl and American marten on the Lassen National Forest and contribute to a population declines rangewide. Furthermore, the analysis for this project and the decision that amended the Lassen forest plan (USDA Forest Service 2004a) relies on the implementation of adaptive management and monitoring to ensure that viable populations for California spotted owl and American marten are maintained. Because the Forest Service has failed to adequately fund and implement the adaptive management and monitoring programs required by the forest plan, population viability for these species can not be assured, in violation of the National Forest Management Act (NFMA).

In addition, we object to the Creeks II Project to the extent that it deviates from the standards and guidelines contained in the 2001 Record of Decision for the Sierra Nevada Forest Plan Amendment (USDA Forest Service 2001) and implements the 2004 Record of Decision for the Sierra Nevada Forest Plan Amendment ("2004 ROD"; USDA Forest Service 2004a). In *Sierra Nevada Forest Prot. Campaign v. Rey*, 573 F. Supp. 2d 1316 (E.D. Cal. 2008), the court held

that the Forest Service violated the National Environmental Policy Act (NEPA) in adopting the 2004 Framework by failing to consider any reasonable alternatives. Because the Forest Service violated NEPA in adopting the 2004 Framework, logging projects that implement and rely upon the 2004 Framework are also contrary to law [see e.g., *Klamath Siskiyou Wildlands Ctr. v. Boody*, 468 F.3d 549, 562 (9th Cir. 2006), *Northwest Ecosystem Alliance v. Rey*, 2006 WL 44361, at *8 (W.D. Wash. 2006), *Citizens for Better Forestry v. USDA*, 2009 WL 1883728, at *13 (N.D. Cal. 2009)]. Thus, to the extent that the Creeks II Project implements any of the changes to the 2001 Sierra Nevada Forest Plan Amendment made by the 2004 ROD, the project is contrary to law.

Our concerns about the Creeks II project and DEIS are described in detail below. We ask that you revise the Preferred Alternative and environmental analysis to address these concerns and recirculate a new DEIS for public review.

I. The Creeks Project Violates the National Forest Management Act (NFMA)

A. Adaptive Management and Monitoring Commitments for the Forest Plan Are Not Being Met.

The Record of Decision for the Sierra Nevada Forest Plan Amendment (USDA Forest Service 2004a) relies on the implementation of an adaptive management program to ensure that population viability for fisher and California spotted will be maintained as a result of the decision. The Chief of the Forest Service affirmed the 2004 ROD and stated:

> I find that managing habitat to maintain viable populations of the California spotted owl, the Pacific fisher, and American marten can only be assured by using subsequent site-specific evaluations and the adaptive management and monitoring strategy. The strategy emerges as a centerpiece of the decision. Commitment to an adaptive management and monitoring strategy convinces me that the NFMA requirement to manage habitat to provide for viable populations can be met. I believe that commitment will translate into a treatment, feedback, and adjustment system to carefully manage risks to habitats.

(USDA Forest Service 2004b, pp. 74-75) As we describe below, adaptive management programs for key species affected by the Creeks II project and specifically named in the appeal decision, i.e., California spotted owl and American marten, has either not been designed and conducted (e.g., American marten) or the program is not being funded (e.g., California spotted owl). In the absence of adequately funding and implementing the adaptive management program, the claims that viable populations of California spotted owl and American marten will be maintained can not be supported. Under the 2004 ROD, projects, such as Creeks II, that are likely to adversely affect these species in ways that are uncertain depend on adaptive management to address risk and uncertainty. In the absence of the required programs, either through lack of design or failure to fund and implement, the projects themselves can not claim to maintain the viability of these species.

1. Termination of Adaptive Management and Monitoring Program for California Spotted Owl

We have heard from Forest Service staff that the demographic monitoring program for California spotted owl has been proposed for termination. This monitoring has been a cornerstone to spotted owl assessment in the region and was identified as a high priority for the adaptive management program in response to the direction in the Chief's appeal decision (USDA Forest Service 2004c). The demographic studies provide the basis on which to assess the effect of habitat change on species fitness and persistence – factors that address the principle elements of species viability. Termination of this monitoring is especially untimely because, as we note below, population trends for spotted owl are worsening and are not stable.

The assessment of habitat changes and effects of fitness is an aspect of the owl adaptive management program that has not been adequately planned or funded. There is no specific adaptive management plan, with timeline for completion and budget, to address how changes in habitat quality affect species fitness and persistence. The desire to examine the chronic effects of habitat alteration has been mentioned in various monitoring reports (see for example Keane et al. 2011), but there is no commitment from the Forest Service to fund and implement such studies. At best, we find statements of desire or intent from scientists connected with the owl demographic studies (see for example, Keane et al. 2011, p. 116-117: "Our biggest challenge to date has been the lack of accurate vegetation information to develop predictive habitat models and to document changes in vegetation due to treatment or disturbance. In 2010 we were able to initiate efforts to develop vegetation maps that will support development of predictive habitat models and be sufficient to document changes in vegetation over space and time that can be used to understand CSO response to vegetation change."), yet there is no commitment from Regional leadership to fund and complete such studies. We raised this concern about commitment to evaluate habitat changes and species fitness to leadership at the Regional Office in July, 2011 (Sierra Forest Legacy 2011; attached) and have yet to receive a specific response from them regarding our request.

The Sierra Nevada Adaptive Management Project (SNAMP) serves as an example of the failure to implement the adaptive management program and its direct relationship to commitments made in the 2004 ROD that were intended to ensure species viability. The SNAMP was instituted in 2005 in response to commitments made by the Regional Forester in the 2004 ROD and in response to direction in the Chief's appeal decision. This program was designed as a "collaborative adaptive management program" intended to evaluate the effects of treatments outside the land base affected by the Herger-Feinstein Quincy Library Group (HFQLG) Act. A team of scientists from the University of California and other institutions came together to act as a neutral third party to design and implement a study of the effects of treatments and to engage in the implementation of this study collaboratively with the Forest Service, other agencies and stakeholders. This program required funding over a 7 year period to meet study design requirements. Delays within the Forest Service have led to a delay in the implementation of treatments; this requires an extension of funding at least an additional year to meet study goals. The Forest Service has declined to extend the length of the study (Battles 2011, Sierra Nevada Adaptive Management Project 2011a, b, c, and d). As a result, a variety of the study goals can not be met, including goals related to assessing impacts of treatments on California spotted owl

(Battles 2011). Maintaining the necessary yearly funding for the SNAMP has also been an issue. The Forest Service committed to supporting the SNAMP program, but consistently the yearly budget has not been met. This situation was presented at public meetings in July and December, 2011 (Sierra Nevada Adaptive Management Project 2011a, b, c, and d). Without adequate funding each year, principle scientists implementing the SNAMP have identified that lack of funding inhibits their ability to complete adaptive management and evaluate the effects of treatments on the target species – California spotted owl and Pacific fisher (Battles 2011).

Another example of failure to fund critical adaptive management studies occurs within the HFQLG project area. A study of spotted owl response to treatments in the Meadow Valley project was initiated in 2007. Data collected through 2010 from this study indicates that spotted owls select against some treatments and utilize others more frequently. However, data collected in 2011 suggests otherwise. At this critical juncture in the study, the Region has indicated that they will not continue to fund assessing owl response to treatments in the Meadow Valley study area.

In summary, the consequences of not adequately funding or implementing the agreed upon adaptive management programs are wide-ranging. First, the 2004 ROD was structured in a manner that relies on adaptive management to satisfy the Forest Service requirement to maintain viable populations of California spotted owl, Pacific fisher, and American marten. As such, failure to meet the commitment to conduct the adaptive management program violates Forest Service direction and the NFMA. Second, these examples illustrate the degree to which the Regional Forester underestimated the time and funding necessary to properly implement the 2004 ROD. If the scope of the adaptive management program was beyond what could be supported financially, then the decision should have been structured in ways that were less risky to imperiled species and that would require less reliance on adaptive management. Lastly, the Region's failure to meet their adaptive management commitments undermines relationships developed to date with scientists, agencies, and other stakeholders. These participants have invested time and resources in the process promoted in the 2004 ROD as the best approach to addressing a variety of resource concerns posed by scientists and others. The Forest Service's failure to implement its adopted adaptive management program will result in an enormous waste of valuable time and resources invested by participants and serve to alienate stakeholders. Such a result is the antithesis of the claim made by the Forest Service that "concepts of collaboration 'working together' and adaptive management 'do, learn, adjust' are parts of the foundation of the Sierra Nevada Framework" (USDA Forest Service 2004c).

2. Adaptive Management for American Marten Has Not been Implemented.

Concerns about marten persistence as a result of implementing the SNFPA were raised by scientists during the development of the amendment (Guldin et al. 2003; Kucera 2004). These concerns led to recognition in the Chief's appeal decision that site specific evaluations and adaptive management would be necessary to ensure the viability of American marten (USDA Forest Service 2004b). Region 5's response to the Chief's direction to explain in greater detail the intended approach to adaptive management, at least in fiscal year 2005, failed to address marten concern beyond an examination of regional monitoring (USDA Forest Service 2004c). Since that time, a variety of studies have been undertaken on the Lassen National Forest to assess

habitat relations of rest and den sites (personal communication, Blair Holbrook) and to model habitat connectivity (Kirk and Zielinski 2010). These studies, however, have not been developed to assess the effects of treatments on habitat quality or to assess the response of marten to treatments.

The original adaptive management program described for the SNFPA established the need to assess the effects of treatment on American marten (USDA Forest Service 2001). No steps have been taken by the Region to identify a program or study plan to assess treatment effects. In the absence of a study designed to systematically examine treatment effects, it is likely that a limited data collected from project-by-project monitoring may be the only information available to assess management effects. *Ad hoc* or random project level monitoring is likely to produce data of limited applicability and a limited power of inference about the effect of management (Stankey et al. 2005) on marten persistence. Unless a robust study to assess treatment effects on marten is undertaken, the commitments in the 2004 ROD (USDA Forest Service 2004a) and the Chief's appeal decision (USDA Forest Service 2004b) to use adaptive management to maintain the viability of American marten can not be met.

B. The Preferred Alternative (Alternative 3) Threatens the Viability of California Spotted Owl

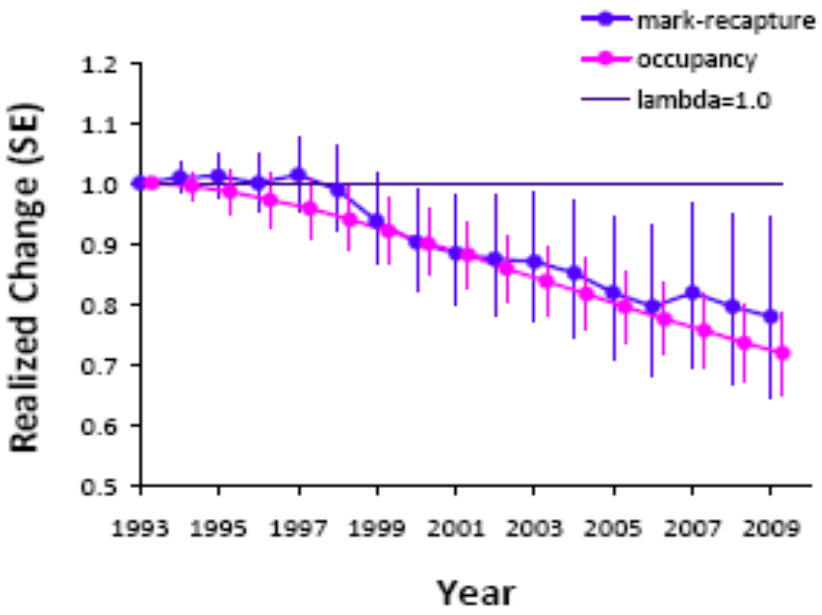
Assumptions about the stability of the California owl populations in the Sierra Nevada have been pivotal to the claim that the nature and intensity of treatments proposed in the 2004 ROD would not lead to a trend toward federal listing for California spotted owl (USDA Forest Service 2004a) or jeopardize the persistence of this species (US Fish and Wildlife Service 2006). However, the assumption of population stability is not supported by recent results from the demographic studies.

The most recent report for the Lassen Study found that:

> The estimated mean lambda for the Lassen Demographic Study between 1990-2010 was 0.979 (SE = 0.0097), with 95% confidence limits ranging from 0.959-0.999 (Scherer et al 2010). There was no evidence of linear, quadratic or pseudo-threshold trends in lambda, rather the means model was strongly supported by the data. <u>These results suggest a decline in the CSO population within the Lassen study area over the 20-year study period</u>. Annual lambda estimates from the best model ranged between 0.87-1.13. Estimates of realized population change based on the time series of lambda estimates generated from our modeling suggests that there have been declines in the number of territory holding CSOs within the study area (Scherer et al. 2010).

(Keane et al. 2011, p. 119-120; emphasis added). Results from the Eldorado Study show similar trends. We learned at the SNAMP annual meeting that the numbers of territories in the study are declining each year. This downward trend in realized population change is illustrated in the graph below that was presented at the meeting.

Figure 1. Results of population dynamics for California spotted owl from the Eldorado Study presented at the annual meeting October 27, 2011. (Sierra Nevada Adaptive Management Project 2011c; taken from presentation posted at: http://snamp.cnr.berkeley.edu/static/documents/2011/10/28/SNAMP_2011_Annual_Meeting_Presentation_AM.pdf)



This sharp decline is in contrast to previous reports of population stability in the Eldorado Study.

The declines noted above have occurred during the time that the 2004 ROD has been implemented. Treatments on national forest lands have been completed within these study areas during the period of decline. Due to the failure to fund an examination of the chronic effects of treatments on owl fitness, there is little information available to evaluate how various treatments contribute to this decline. Nonetheless, the conclusions in the US Fisher and Wildlife Service's decision not to list the California spotted owl are no longer accurate:. For instance, they found that "the best available data indicate that survival of spotted owl populations in the balance of the State of California (the Sierras) has been improving at the population level… We expect this trend to continue as the Forest Service in the Sierras implements its fuels reduction strategy that includes protections for the spotted owl and its habitat" (Federal Register, Vol. 71, No. 100, p. 29901). Contrary to this finding, populations have declined in two study areas within the Sierra Nevada during the time that the Forest Service has been implementing its fuels reduction strategy.

The Wildlife Report for the Creeks II project fails to explain how, given the backdrop of population declines (both locally and in the demographic study area to the south), the adverse impacts to owl habitat will not will not lead to a trend toward federal listing or jeopardize the persistence of spotted owl. The Wildlife Report (p. 35) appears to rely on information from Bart (1995) to infer that the amount of suitable habitat provided on the landscape is sufficient to maintain a stable population. The Wildlife Report asserts that even with habitat reductions

associated with Alterative 2 or 3, the landscape level of suitable habitat would be about 53%, which is higher than the levels that Bart (1995) suggested as necessary to maintain a stable population. This logic fails to recognize that regardless of the likely reduction in suitable habitat, the current levels of habitat do not support a stable population as indicated by the declining results from the Lassen demographic study. The geographic overlap between the demographic study and the Creeks II project is significant, and the Wildlife Report fails to take into account that a declining population is the baseline condition.

In assessing the effects of the treatments on owl territories, the Wildlife Report (p. 36) relies on information from Lee and Irwin (2005) to make inferences about the quality of the territories and the potential effect of reducing habitat quality on reproduction. The critical value that the wildlife relies on from Lee and Irwin (2005) is to maintain 45-50% of the 1000-acre area surrounding a nest stand in suitable habitat. The Wildlife Report (p. 36-37) finds that current levels of suitable habitat for the an area of 500 acres or 1,000 acres around an affected nest stand for all but one territory exceeds 46% suitable habitat and the logging in Alternative 3 will not change that proportion. Based on this evaluation, the Wildlife Report finds that the effects of Alternative 3 will be minimal. This assessment overlooks the information and evaluation provided by owl scientist Dr. Jennifer Blakesley during the development of the first Creeks project and EIS in 2005. Dr. Blakeley's assessment found reproductive success for spotted owls in this project area was associated with a high proportion of suitable habitat within 500 acres of a nest stand. She found that the 500-acre around nest stands had on average 87% suitable habitat (Blakesley 2005b, p. 1), a value that is significantly greater than Lee and Irwin (2005). Of the twelve territories listed in Table 12 (Wildlife Report, p. 36), nine have existing levels of habitat that are lower that 87%. The analysis of effects of territories should be reconsidered in light of Blakesley's research which is specific to the Creeks area. Given the declining population status additional degradation of suitable habitat close to nest stands that already have levels of suitable habitat below optimum should be avoided.

The factors above combined with the underestimate of impacts on spotted owls we describe in the sections below indicate that the negative effects from the Creeks II project and the adverse cumulative effects from past and ongoing projects on public and private lands are likely to lead to a trend toward federal listing for California spotted owl. Such a trend is in violation of Forest Service direction.

C. The Preferred Alternative (Alternative 3) Threatens the Viability of American Marten

Concerns about changes in the distribution of marten have been noted in the published literature and elsewhere (Kucera 2005a and b; Zielinski et al. 2005). Among other things, experts have concluded that the apparent reduction in the range of the marten is most likely due to a combination of factors, including "loss of mature forest habitat" (Zielinski et al. 2005, pp. 1385-86). The review of the Creeks project[1] provide by Dr. Thomas Kucera found that:

[1] The footprint of the Creeks project from 2005 is largely the same as the Creeks II project. Modifications to the number of group selection units and some changes to unit boundaries have occurred.

> In other words, the marten's status in the northern Sierra Nevada appears to be precarious, and the FEIS fails to disclose this information. The FEIS implies that the marten's distribution in the northern Sierra Nevada is continuous, when recent USDA Forest Service research has concluded that there is a "large gap" in distribution. Thus, the FEIS fails to acknowledge the marten's imperiled status in the region.

(Kucera 2005b) The large gap in distribution in the northern Sierra Nevada referenced in Zielinski et al. (2005, p. 1392) extends south of the national park across the Lassen and Plumas national forests. Although recent information on winter detections in the Creek II area indicate that marten is occupying the area, the absence or low numbers of marten on the Plumas National Forest remain at issue.

Kucera's review of the Creeks project evaluated the potential existence of marten in the Creeks project area and found that:

> 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. 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. 2-3) In his review, degradation of marten habitat and increasing fragmentation remained key concerns even if marten was present in the project area.

Kucera (2004), in his review of the 2004 Framework, found that found that its implementation was likely to threaten the viability and distribution of the marten in the northern Sierra Nevada. He also found that the reduction in the amount of habitat and the increase in the percentage of openings in the Creeks project was "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" (Kucera 2005b). Alternative 3 of the Creeks II also degrades habitat quality, as indicated by reductions in canopy cover, creation of forest openings, and increases in the risk-cost surface presented in the Wildlife Report, and will substantially contribute to adverse impacts and threaten the viability of marten.

D. The Management Indicator Species Approach Fails to Meet the Intent of NFMA.

The implementing regulations for the National Forest Management Act direct that "population trends of the management indicator species will be monitored and relationships to habitat changes determined (36 CFR 219.19(a)(6)). The recent forest plan amendment to identify management indicator species (MIS) for the national forests in the Sierra Nevada stated that

"MIS monitoring tests the assumption (of the forest plan) that if a habitat is managed a certain way, all the species associated with that habitat will be maintained over time" (USDA Forest Service 2007, p. 6). Furthermore, the MIS amendment states that "The species were selected as MIS because their population changes are believed to indicate the effects of land management activities (1982: 36 CFR 219.19 (a)(1))" (USDA Forest Service 2008a, p. 2).

The California spotted owl was selected as one of the MIS for national forests in the Sierra Nevada, and it was identified as MIS for the Creeks project (Wildlife Report). According to protocols associated with the MIS amendment, the MIS monitoring relies on assessing trends in habitat and the distribution of species across the ten national forests in the Sierra Nevada. It is obvious from the MIS amendment that a plan area of such enormous size, over 10 million acres covering ten national forests, was selected so as to dilute and make biologically irrelevant the assessment of indicator species. The California spotted owl and the Creeks project serve as a case in point.

As an MIS, the California spotted owl is intended to serve as an indicator for species associated with closed canopy late seral habitat (USDA Forest Service 2007b, p. 3). The implementation guidance for the MIS amendment indicate that closed canopy habitat is represented by "ponderosa pine (PPN), Sierran mixed conifer (SMC), white fir (WFR), red fir (RFR), tree size 5 (canopy closures M and D), and tree size 6," and population trend for spotted owl is assessed using owl demographic results.

The MIS report for 2008 (the only report available on the monitoring website) states that the amount of closed canopy forest is increasing and that population trends for California spotted are stable (USDA Forest Service 2008b). This information is not consistent with recent assessments (noted above) that indicate that the population decline in the Lassen Study has been persistent over the last 20 years and additional declines have been detected in the Eldorado Study. In this case, we have declines in populations in the face of reportedly increasing amounts of the habitat that is intended to indicate the health and status of the species. The MIS amendment attempts to skirt the issue by focusing on rangewide effects and adopting a planning area that is so expansive that the collapse of the species, i.e., its extinction, would be required to indicate a need to change management. This result is clearly not the intention of the planning rule for the NFMA.

The MIS concept is further eroded by the approach taken in assessing habitat quality at the project level. In the case of the Creeks II Project, The Wildlife Report claims that logging will create closed-canopy late seral habitat through the removal of understory trees that results in the mathematical increase in the quadratic mean diameter of the stand. It has been estimated that logging in Alternative 3 of the Creeks II Project will create 380 acres of closed canopy late-seral forest. On its face, this would be a 25% increase in this type of habitat in the treated area. The Wildlife Report provides no evidence to support the claim that logging creates a condition that biologically reflects closed canopy late-seral habitat; this is simply an office exercise to evaluate habitat that is driven by the mean diameter predicted for the stand. Habitat attributes are available to characterize more accurately the quality of dense late-seral habitat used by spotted and are referenced in the Wildlife Report (p. 21). These characteristics more appropriately reflect the attributes of closed canopy late seral forests utilized by spotted owl and should be assessed at the project and planning level scales.

Sadly, the Creeks II Project illustrates the degree to which the MIS amendment makes a sham of monitoring. The MIS amendment is a costly effort that is unlikely to ever detect the need to change management until species declines are so extreme it is too late to change course. Further, it provides nothing to the advancement of the direction to maintain viable populations of species across the planning area as directed by the planning rule.

II. The Creeks Project Violates the National Environmental Quality Act (NEPA)

A. The Project Alternatives Were Not Accurately Described and Evaluated.

Our review of the DEIS suggests that specialists evaluating the effects of the alternatives on resources had differing interpretations for the alternatives. As an example, the specialists responsible for the wildlife analysis[2] appear to believe that Alternative 4 will result in impacts that are not supported by the description of the alternative or the data provided to assess the alternatives. This misunderstanding of the alternatives leads to an evaluation of effects on American marten and California spotted owl that are not supported by the data presented or other evaluations in the DEIS.

As a general matter, the author(s) of the Wildlife Report appear to believe that Alternative 4 will have a significantly greater impact the alteration of suitable habitat for California spotted owl and American marten compared to Alternatives 2 and 3. This erroneous conclusion appears to stem from the following presumption about the development of Alternative 4:

> This alternative departs from both alternatives 2 and 3 in that the treatments would be carried out to meet fuels objectives alone and the retention of attributes such as snags, canopy, and understory vegetation beyond what is required was not considered in the development of the five treatments.

(Wildlife Report, p. 47) As we will show below, Alternative 4 was designed to retain understory vegetation in amounts that appear to exceed the other alternatives, retains greater canopy cover and at least the same amount of down wood and snags.

The following are examples of statements of effects from the Wildlife Report compared to other information presented in the DEIS that illustrate this. In comparing Treatment A to Treatments 1, 2 and 3, the Wildlife Report states that:

> Treatment A includes retention of approximately 10% of the smaller, healthy (50% live crown) trees and clumping trees is also part of the treatment objectives. These features would not be carried forward to this alternative. Under this alternative, a greater number of trees could be removed from the smaller size classes and trees and crowns would be separated (no intentional clumping of trees) leaving a moderately open stand where spacing would be rather uniform as shown in Figure 15.

[2] The focus of our review was on wildlife values. Other specialists also may have been confused about the outcome of the alternatives, but this was not a focus of our review.

(Wildlife Report, p. 47) This statement of effect is not consistent with the description of the alternative or the data provided in the project file. The description of Treatment 1 in the DEIS states that:

> **Treatment 1. DFPZ surface, ladder and canopy fuels**
> All understory conifer trees would be thinned with an upper diameter limit of 14 inches where operability allows. A minimum of 25 percent of trees at or below 14 inches in diameter would be retained. Emphasis would be placed on breaking up ladder and surface fuel continuity. A minimum canopy cover of 30 percent would be retained where available.

(DEIS, p. 38) Table 10 (Ibid.) indicates that the areas designated as Treatment A in Alternatives 2 and 3 would have Treatment 1 in Alternative 4. This means that Treatment 1 would retain more understory biomass (25% of the trees less than 14" DBH and all trees above this diameter) than reported for Alternative A (10% of smaller healthy trees). Thus, there is no basis to conclude that "a greater number of trees could be removed from the smaller size classes" or that a "moderately open stand where spacing would be rather uniform" would result.

The Wildlife Report further states that:

> Treatments 1, 2, and 3 would be likely to render stands that currently provide suitable habitat unsuitable or leave them with limited habitat quality even with a minimum amount of cover due primarily to the effect on understory habitat and reductions in canopy densities coupled with a loss of snags and down logs (up to 12 inches) as well as a limited understory. Although treatments 4 and 5 would retain 40% canopy density on average the <u>loss of the decadence and understory attributes</u> in addition to canopy density reductions would create stands with lowered habitat value for the spotted owl.

(Wildlife Report, p. 45-46) As indicated above, understory conditions are not expected to be as described in this statement. Further the estimated loss of snags and down logs also is not accurate. Design measures common to all alternatives (DEIS, Appendix A), including Alternative 4, address protection measures for snags and down woody material that would result in similar impacts under all alternatives:

> 48. Surface fuels of down, woody material greater than 12-inches diameter at end point would be retained at 10-15 tons per acre where it exists. Smaller surface fuels (material that is 3 inches in diameter or less) would be retained at no more than 5 tons per acre.
>
> Page 266-167: 55. Where small (non commercial) conifers are present as an understory, retain trees with 50 percent live crown and a d.b.h. of 10 inches or less unless doing so does not meet fuels objectives.
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> 56. Within mastication units, retain 10 - 15 percent of the existing shrub cover. Retain higher percentage of existing shrubs within units that have lower amounts of shrub cover overall.
>
> 58. Maintain 2-4 snags per acre within the remainder of DFPZ treatment units.

> 59. Within area thinning units, retain 4 snags per acre in mixed conifer stands and 6 snags per acre within red fir stands where they exist. The goal would be to retain the largest snags available. Snags larger than or equal to 15-inch d.b.h. would be used to meet these guidelines.
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> 60. Snags would be clumped and distributed unevenly. The treatment area would be considered as a whole when figuring snag retention levels with consideration also given to site conditions. Sites with low productive potential would generally have fewer snags than highly productive sites.
>
> 61. Snag selection would emphasize retaining fading or recently dead trees as these provide desired excavating and foraging substrates.
>
> Down woody retention guidelines would be developed for this project that would generally retain an average across treatment units of 10-15 tons of large down wood per acre. This material would consist of logs greater than 12-inch size at the small end and a minimum of 6 feet in length.

(DEIS, Appendix A, p. 265-267) The design measures described above are to be applied to all action afterlives, including Alternative 4. These measures address the retention of a variety of features and attributes that the Wildlife Report claims will be lost under Alternative 4.

Statements in the Wildlife Report also mention a loss in canopy cover as contributing to reduction in habitat quality for Alternative 4. Our review of information provided by the District staff indicates that of units that are common to Alternatives 2, 3 and 4, actions in Alternative 2 and 3 result in only 2 units with post treatment canopy cover that is greater than that estimated for Alternative 4. In contrast, Alternative 4 retains higher canopy cover post treatment on 54 out of the units that are common to all alternatives. The data characterizing post treatment habitat conditions in the treatment units dopes not support the claim in the Wildlife Report that "this alternative would have a greater impact on existing owl territories and provide a greater risk to future occupancy" (Wildlife Report, p. 48). To the contrary, the data indicate that Alternative 4 would result in less degradation of habitat than Alternatives 2 and 3 because higher canopy cover would be retained and a greater amount of understory. Furthermore, there would be less disruption of the mid and upper story of larger diameter trees that can create the high canopy density that spotted owls and marten prefer.

Leave islands in Alternatives 2 and 3 are identified as habitat enhancements. Repeated claims are made that Alternative 4 does not result in leave islands. In fact, the design of Alternative 4 indirectly will result in leave islands and areas undisturbed by treatment. As identified in the DEIS:

> Areas having high densities of mid and overstory trees that exceed upper harvest diameter limits would restrict mechanical thinning and surface fuel treatment due to tree spacing. These areas would be similar to untreated leave islands and would remain overstocked having effects similar to those described under the no-action alternative.

(DEIS, p. 88) Leave islands in Alternative 4 would be created in areas where tree density of the larger trees is the greatest because operationally thinning would not be possible. The benefits of such leave islands to habitat structure were not evaluated in the DEIS or Wildlife Report. In fact, the Wildlife Report (p. 47) mistakenly claims that "Treatments 4 and 5, considered area thins, lack the leave islands that are part of the area thin prescriptions in alternatives 2 and 3 (CWHR 4M, 4D and 5) therefore a greater percentage of the stand would be treated." The potential to indirectly create leave islands and their benefit to habitat structure should be discussed in the Wildlife Report.

The DEIS also fails to recognize that habitat quality on approximately 1,021 acres of largely suitable habitat for spotted owl or marten would not be reduced under Alternative 4. These areas were removed from treatment because their current conditions already meet desired fuels objectives (DEIS, p. 96). Further, 660 acres of group selection harvest would not occur under Alternative 4 (DEIS, p. ix) and would not render unsuitable habitat for spotted owl and marten under Alternative 4. These benefits to habitat condition should be evaluated in the environmental analysis.

As a summary of effects on California spotted owl, the Wildlife Report (p. 48) claims that "Due to the single design focus of fuels, none of the treatments in alternative 4 would create the conditions that would allow stands to develop future quality owl habitat" and further states that the "limited focus" of Alternative 4 "would not meet the intent of several of the objectives previously outlined such as greater stand and landscape heterogeneity." There is no analysis or evidence in the Wildlife Report to support this claim. To the contrary, there is evidence in the DEIS to indicate that Alternative 4 will result in additional growing space for trees to increase in size and that stands conditions (as indicated by fire behavior effects) will be variable (DEIS, p. 42).

Similar claims were made in the analysis of effects of the alternatives on American marten. Repeatedly, the Wildlife Report presumes that understory removal in Alternative 4 will result in degradation of habitat to a greater extent than the other alternatives. As we have shown above, the description of the alternatives and the analysis does not support this conclusion. The Wildlife Report takes this presumption to the extreme by claiming that the results of Alternative 4 are so different that the habitat modeling used to assess the effects of Alternatives 1, 2 and 3 can not be used to assess Alternative 4 (Wildlife Report, p. 90). Without providing any evidence or rationale, the Wildlife Report concludes:

> However, because this alternative would affect habitat differently a comparison of the tables previously presented would not be meaningful as habitat is affected differently and is not readily reflected in changes to CWHR, which is the basis for the tables. The treatments would result in a reduction of habitat value for marten throughout the project area.

(Wildlife Report, p. 90)[3] As described above, Alternative 2 and 3 would in most cases result in a greater loss of overstory canopy compared to Alternative 4. Contrary to the claims in the Wildlife Report, Alternative 4 treatments would retain as much or more understory vegetation

[3] We note that the statement that CWHR values are largely unaffected by the treatments in Alternative 4 is inconsistent with claims made in the Wildlife Report that Alternative 4 rendered unsuitable habitat for California spotted owl due to a reduction in canopy cover.

and, as described above, result in leave islands of dense vegetation of trees greater than the diameter limit identified for the stand. Metrics used to characterize or assess Alternative 4 support these conclusions. These include the estimated amount of understory trees retained, estimates of post treatment canopy cover, statements about untreated areas, and estimates of post-treatment basal area. These factors indicate that Alternative 4 retains more habitat structure compared to Alternatives 2 and 3.

The Wildlife Report and DEIS should be revised to consistently and accurately evaluate the impacts of the alternatives on the environment. Furthermore, the conclusions and findings in these documents should be based on evidence in the DEIS, reports or project file.

B. The level of Detail Provided in the DEIS Is not Adequate to Evaluate the Alternatives.

We found it difficult to review of the effects of the alternatives on habitat quality because unit level pre and post treatment habitat data was not included in the DEIS or Wildlife Report. The data in the GIS coverages and spreadsheets provided to us by District staff greatly increased our ability to understand the analysis of the environmental effects presented in the DEIS.[4] We suggest that unit tables reflecting pre and post treatment condition for each alternative be included in future documents to facilitate review.

Further, it is important to be able to assess the spatial relationship between the treatment unit, sensitive resources and post treatment conditions. Inclusion in future environmental documents of maps with unit numbers (similar to what was provided to us in out information request) that link to unit tables would enable reviewers to assess site-specific effects.

C. The Surveys for California Spotted Owl Are Outdated.

The last survey results for California spotted owl reported in the Wildlife Report was 2009. As a general matter, spotted owl survey results are valid for two years after the surveys, at which point the area needs to be resurveyed to meet the requirements of the protocol. The Wildlife Report mentions that spotted owl was surveyed annually as part of the demographic study. The most current results should be reported in the Wildlife Report. Current survey results are needed to evaluate impacts to spotted owl.

Current survey results are also necessary for determining the boundaries of the units and the prescription to be applied in the units as described in the alternatives. The type of treatment and presence of group selection units depends on the spatial relationship of the unit to the territory (DEIS, p. 27-29). Spotted owl nest stands in the project area have moved in recent times (Wildlife Report, p. 28); there is no reason to expect that movements might have occurred again since 2009 and that treatment locations and prescriptions may need to be altered.

[4] We express out appreciation to District staff for providing information that assisted in our review of the DEIS. We recognize that gathering information takes time and appreciate that they were able to deliver the information prior to the close of comments for the DEIS.

The spotted owl survey information should be updated and information describing the alternative (e.g., treatment location and prescription) to be consistent with the narrative of the alternatives. Further, the effects analysis should reflect the most current information for the species.

D. Den Site Locations For American Marten Were Not Disclosed.

We attended a field trip to the Creeks project area in October, 2011. During this trip we visited two den locations with the Creeks Project area. These dens should be identified in the Creeks analysis. A habitat analysis of the likely home range around these sites and the effects of treatments on the home range should be completed. Further, the 2004 ROD (USDA Forest Service 2004a, p. 67) requires that buffers be established around all known den buffers for fishers and martens. Den buffers for marten would be a 100-acre area of the best available habitat around the den site (Ibid., p. 39). Within these buffers management restrictions apply and should be mentioned in the DEIS if these buffer area overlap with treatment units.

E. The Effects of Alternative 3 on California Spotted Owl and American Marten are Underestimated.

As described above, the potential adverse effects of Alternative 3 on California spotted owl and American marten are underestimated because the impacts are not accurately described. The effects on California spotted owl and American marten also are underestimated because the regional context for these species was not closely examined. Because the Wildlife Report de-emphasizes existing concerns about these species population status and distribution, the baseline condition is not accurately described. This situation is compounded by unsubstantiated claims that the proposed treatments will result in habitat conditions in the future that are significantly improved over baseline conditions. This is used to justify the reduction in habitat quality for an unspecified period of time post treatment. In the sections below, we identify for spotted owl and marten baseline conditions that warrant the application of management actions in the project area that minimize habitat loss in the short term.

1. American Marten

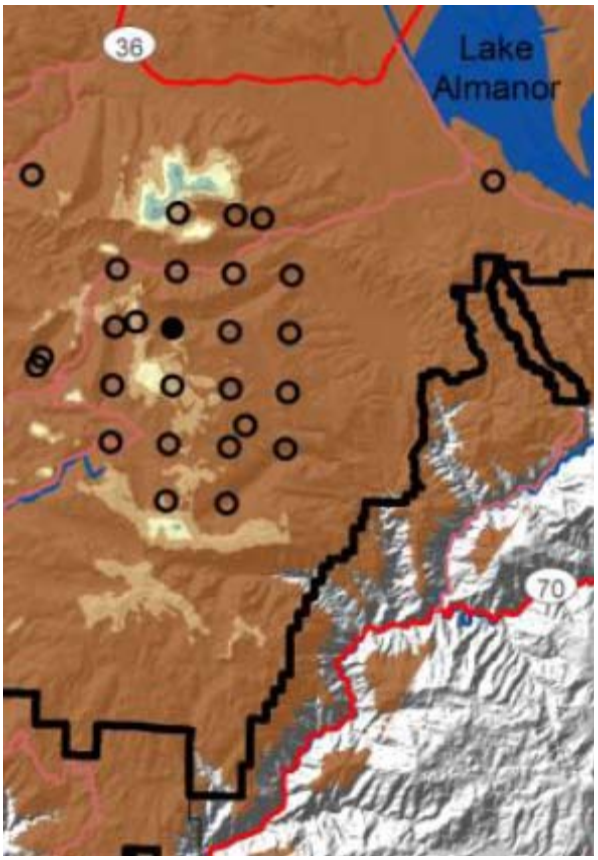
The Wildlife Report (p. 69) recognizes that there may be localized declines in American marten and that declines in reproductive habitat may contribute to this. The Wildlife Report also mentions concerns about habitat fragmentation and refers to an assessment completed by Kirk and Zielinski (2010) to assess connectivity in the area. Surprisingly, the Wildlife Report fails to mention the assessment completed by Rustigian-Romsos and Spencer (2010) that evaluated habitat in the Mount Lassen area and to the south, including the Creeks II project area.[5]

Rustigian-Romsos and Spencer (2010) utilized survey information collected by the Forest Service and others and combined this with recent vegetation data to develop a habitat use model for marten. This model evaluated both winter and summer use, since as described in the Wildlife Report, there appears to be a different pattern of use between the seasons or a different responsiveness to survey detections between seasons. This winter-only model identified limited

[5] The omission of the report is particularly surprising since the Lassen National Forest commissioned its completion (Rustigian-Romsos and Spencer 2010, pp. 1-2).

habitat in the assessment area with the highest concentration occurring in and around the national park. To the south, some of the most suitable winter-only habitat occurs within the Creeks II project area (Figure 2, below).

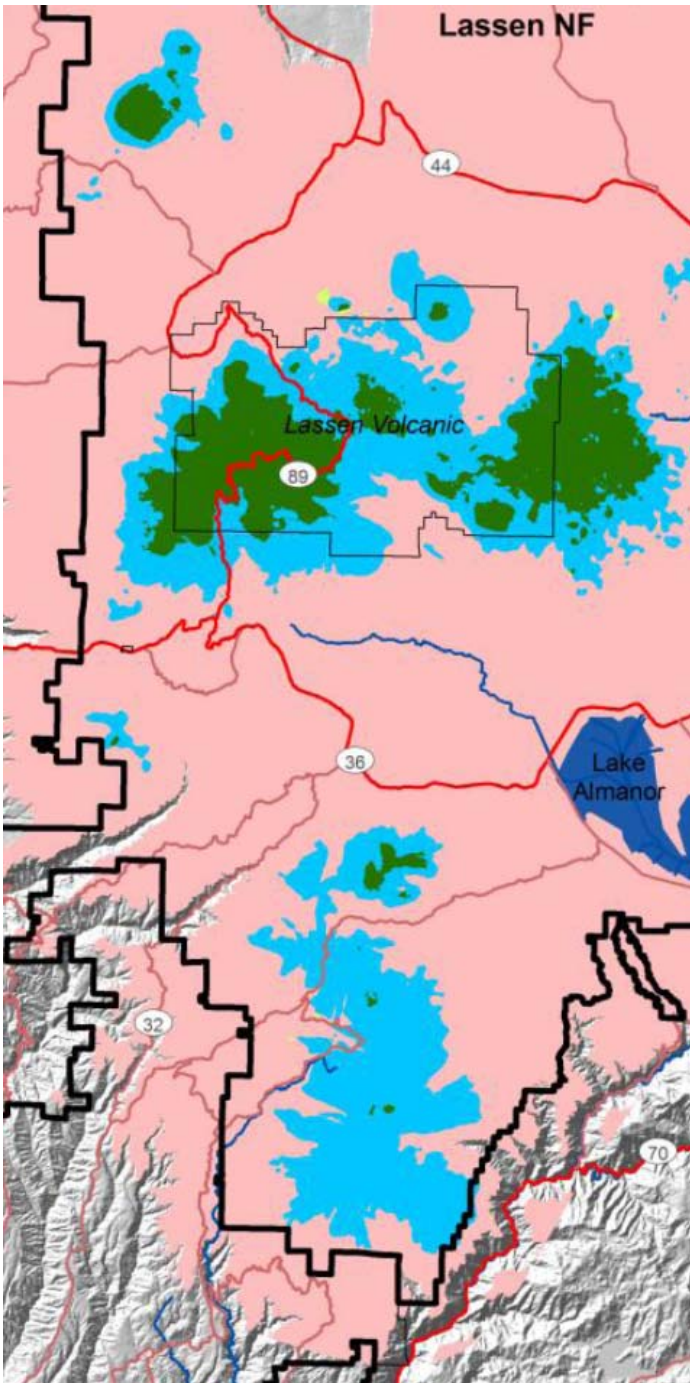
Figure 2. Winter-only model of probability of occurrence for marten taken from Rustigian-Romsos and Spencer (2010, Figure 5). Blue indicates 08.-1.0 probability of occurrence and brown indicates 0.0-0.2 probability.



The summer only model in Rustigian-Romsos and Spencer (2010, Figure 13) indicates that there is considerably more habitat with a higher probability of occurrence in the summer with in the Creeks II project area compared to the winter-only model. The summer-only model indicates, as did the winter-only model, that the probability of occurrence is highly isolated in the assessment area and that Creeks II project area makes a significant contribution to the higher probability of use habitat.

Rustigian-Romsos and Spencer (2010, Figure 14) combined the summer-only and winter-only models to display a composite map of the areas where martens are most likely to occur (Figure 3). Significant area within the Creeks II project occurs within the area that is suitable in winter with some amount of suitable in summer and winter. Figure 3 also illustrates the degree of isolation of the suitable habitat in the Creeks II project area from other suitable habitat in the region.

Figure 3. Overlap of averaged best winter-only and summer-only models (using 50% probability of detection to portray marten habitat). Taken from Rustigian-Romsos and Spencer (2010, Figure 14). Pink is unsuitable, blue is suitable winter-only, light green is suitable summer-only, and dark green is suitable summer and winter.



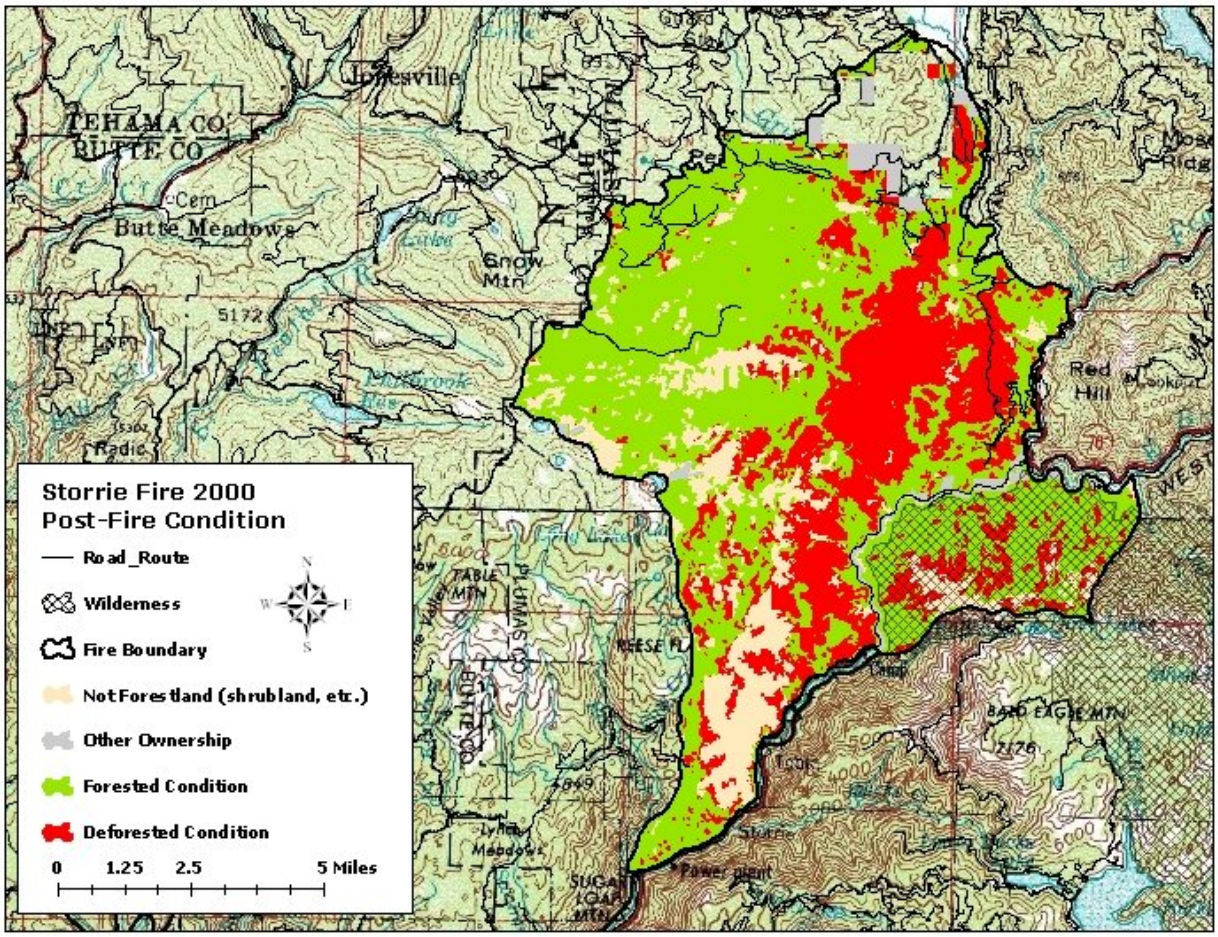
This degree of isolation lead Rustigian-Romsos and Spencer to recommend that evaluations of site-specific effects consider both seasonal maps (i.e., models) when considering impacts to marten from proposed treatments (Ibid., pp. 22-23). The Wildlife Report did not include this

assessment in the evaluation of impacts of the project on marten. This assessment is critical to understanding baseline conditions and assessing the degree to which the habitat degradation likely to result from Alternative 3 would further degrade and isolate suitable habitat for marten.

The Wildlife Report references an assessment of connectivity completed by Kirk and Zielinski (2010). This assessment modeled functional habitat connectivity using least-cost corridor analysis for the region from the Oregon border to Lake Tahoe. The Wildlife Report uses a visual comparison of risk-cost surfaces pre- and post- treatment to suggest that the effects to connectivity would be minor (Wildlife Report, p. 84, Appendix 3, p. 121-123). Our examination or the cost surfaces does not indicate minor change in the alternative, rather it indicates that a considerable amount of low risk habitat (dark green) moves to moderate risk and possibly even high risk. There is little evidence presented in the Wildlife Report to support this conclusion of minimal effect on marten, especially in light of the recommendations in Rustigian-Romsos and Spencer (2010) not to increase fragmentation within and between areas more likely to be used by marten. The importance of limiting habitat fragmentation in the Creeks II area demands a more detailed examination of project level effects.

With respect to the connectivity modeling in Kirk and Zielinski (2010), we have some additional concerns about how this assessment was used to evaluate the effects of the Creek II alternatives. We are concerned about the characterization of cost-risk for the area affected by the Storrie fire. We examined the burn severity map for the Storrie Fire. This map indicated that deforested conditions (Figure 4, red in the map) occur in significant areas north of Buck's Lake Wilderness Area.

Figure 4. Map of Storrie Fire (http://www.fs.fed.us/r5/rsl/projects/postfirecondition/2000/). Deforested conditions are generally defined as those with >20% canopy cover.



The maps presented in Kirk and Zielinski (2010) depict a least-cost path corridor passing through the deforested area north of Buck's Lake Wilderness Area. Based on habitat suitability known for marten, it seems unlikely that this corridor extending south of the Creeks project area toward Buck's Lake Wilderness Area has much utility for marten movement. In fact based on concerns raised about marten habitat quality in the first Creeks project (Kucera 2005a, Kucera 2005b), it appears highly unlikely that marten would successfully cross this area. Assuming that Kirk and Zielinski (2010) utilized vegetation data that reflects changes in forested conditions resulting from the Storrie Fire, the existence of a "least path corridor" may not be surprising due to the way the modeling process is designed. As noted in Kirk and Zielinski:

> An additional limitation inherent in our modeling approach is that least-cost techniques *always* produce a corridor, whether it is actually traversable or not (Beier et al. 2008).

(Kirk and Zielinski 2010, p. 11) The existence of a path does not validate its quality; rather it is just the best path of "travel" given the choices presented. The Wildlife Report, however, uses the existence of a "path" to assure us that connectivity exists in the project area stating:

> The top 25% of the pathways (out of several thousand potential pathways modeled by the computer) providing the lowest risk to marten included the project area indicating that current habitat is not limiting connectivity.

(Wildlife Report, p. 77, emphasis added) Based on the construct of the modeling process, it is incorrect to assume that the definition of a "path" indicates anything about its quality. None of the information provided in the wildlife Report supports the claim that "current habitat is not limiting connectivity."

There is also information provided in the project data supplied by District staff to suggest that the reduction of canopy cover below a threshold claimed to be important marten (i.e., 30% canopy cover[6]) is underestimated. We examined the unit data provided by District staff and found for Alternative 3 that there many units in which canopy cover would be reduced below 30%. Prior to treatment 138 treatment units had canopy cover less than 30. The number of units with less than 30% canopy cover after applying Alternative 3 was estimated to be 560 units. A significant number of these units are group selection harvests. Even if one examines only the DFPZ or Area Treatment units, there are an additional 48 units in which canopy cover drops below 30% canopy cover as a result of Alternative 3. We are not able to estimate the additional area with less than 30% using the unit data provided, but suggest that since mean unit size (of non-group selection units) is about 24 acres a substantial area may be reduced to having canopy cover less than 30% as a result of Alternative 3.

2. California Spotted Owl

The regional setting for California spotted provides the baseline against which to assess the effects of Alternative 3 on California spotted owl. Demographic results for the Lassen Study area indicate that owl populations have been declining over the past 20 years (Keane et al. 2011). Logging and other management activities have been ongoing during this period and may be contributing the declining trend (Blakesley 2005a and b; Blakesley et al. 2005). The Wildlife Report does not address the likelihood that habitat degradation from logging in the Lassen Study area has contributed to declines in the local owl population. The Wildlife Report also does not address the degree or importance of owls affected by the Creeks II area to local population stability. For instance, the Wildlife Report (p. 20) identifies that owl occupation of the Creeks II area has been relatively stable in recent years; however, there is no information given about the contribution of these "stable" sites to owl persistence. Is the Creeks II project area a source or sink for owl reproduction? Given the persistent decline in population for this region, these spotted owls are likely to be highly important to the local population. Extirpation of these owls would lead to further declines in the local population. Because the importance of these owls to the local population was not considered, the effects of Alternative 3 were underestimated.

[6] We note that experts have found that this level of canopy cover is low and that marten prefers significantly higher canopy cover for foraging and resting (Kucera 2005a, Kucera 2005b. We use this value here simply to illustrate that impacts are underestimated even when the Wildlife Report uses its own criteria.

F. The Cumulative Effects of the Project Are Not Adequately Disclosed.

The underestimate of effects, the omission of information about the baseline conditions, and the lack of disclosure of effects noted in the sections above also contribute to deficiencies in the cumulative effects analysis. The contribution of project level effects to past and ongoing activities should be more carefully considered in a revised DEIS.

While logging on private is acknowledged, the Wildlife Report attempts to minimize its contributions by stating that not all private lands will be treated. The Wildlife Report, fundamentally, overlooks the baseline setting for both spotted owl and marten that suggests these species are imperiled and severely limited by habitat conditions. Additional degradation of conditions, either by the Creeks II project or other actions in the assessment area, only exacerbates their current status and trend in the region. The Creeks II area, as described above, is critical to both spotted owl and marten persistence in the northern Sierra Nevada and must be considered in light of past and ongoing activities in the cumulative effects analysis.

III. Conclusion

Our review of the DEIS and information in the project file suggests that Alternative 4 best maintains species persistence in the project area while improving fire resiliency. This alternative results in less degradation of habitat in the short term, as supported by project data, improves the fire resiliency, and reduces the density of the stands. With respect to the Creeks II DEIS and the Preferred Alternative, we find that these 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.

Sincerely,

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Attachment 1

Table 1. Units in which post treatment canopy cover differed between alternatives. The two highlighted unit are the only units where the post-treatment canopy for Alternatives 2 and 3 exceeded Alternative 4. Post-treatment canopy cover was higher for Alternative 4 in the remaining 54 units in this table. The information was excerpted from unit information provided by Ranger District staff for Alternatives 2, 3 and 4.

	Pre-Treatment			Alternatives 2 & 3				Alternative 4			
Unit Number	Pre-Treatment CWHR	Pre-Treatment Canopy Cover	Pre-Treatment Basal Area	Alternative 2 and 3 Rx	Post-Treatment CWHR	Post-Treatment Canopy Cover	Post-Treatment Basal Area	Alternative 4 Rx	Post-Treatment CWHR	Post-Treatment Canopy Cover	Post-Treatment Basal Area
3	3P	3	40	A	3P	2	40	1	3P	3	40
6	4M	5	220	A	5P	3	170	1	4M	4	170
13	3P	3	60	A	3P	2	50	1	3P	3	50
22	3P	3	40	A	3P	2	40	1	3P	3	40
30	4P	3	120	A	4P	2	100	1	4P	3	70
31	4M	4	210	E	4M	4	160	4	4P	3	190
32	4P	3	100	A	4P	2	90	1	4P	3	70
37	4M	4	210	C	4P	3	160	2	4M	4	180
41	4M	4	190	M	4P	3	180	3	4M	4	130
46	4P	3	120	A	4P	2	100	1	4P	3	90
63	4P	3	140	D	4P	2	120	4	4P	3	120
97	4M	4	210	A	4P	3	160	1	4M	4	170
108	4P	3	120	A	4P	2	100	1	4P	3	100
111	3P	3	60	A	3P	2	50	1	3P	3	50
129	4M	4	260	E	4M	4	190	4	4P	3	210
131	4P	3	140	M	4P	2	120	3	4P	3	120
137	3P	3	50	D	3P	2	50	4	3P	3	50
138	3P	3	80	D	3S	2	80	4	3P	3	80
146	3P	3	60	A	3S	2	50	1	3P	3	50
164	4P	3	140	D	4P	2	120	4	4P	3	120
169	3P	3	60	C	4S	2	50	2	3P	3	50
173	4M	5	290	M	5P	3	190	3	4M	4	200
178	4P	3	130	A	4P	2	110	1	4P	3	120
180	4M	5	240	A	5P	3	180	1	4M	4	180
182	4M	5	240	A	5P	3	180	1	4M	4	210
188	4P	3	140	A	4P	2	120	1	4P	3	120
195	3P	3	80	A	3S	2	70	1	3P	3	70
206	4M	5	290	M	5P	3	200	3	4M	4	220
208	3P	3	60	A	3P	2	50	1	3P	3	50
212	4M	5	250	A	5P	3	190	1	4M	4	120
216	4M	4	200	O	4M	3	150	2	4M	4	180
217	4M	5	250	A	5P	3	190	1	4M	4	160

Attachment 1

	Pre-Treatment			Alternatives 2 & 3				Alternative 4			
Unit Number	**Pre-Treatment CWHR**	**Pre-Treatment Canopy Cover**	**Pre-Treatment Basal Area**	**Alternative 2 and 3 Rx**	**Post-Treatment CWHR**	**Post-Treatment Canopy Cover**	**Post-Treatment Basal Area**	**Alternative 4 Rx**	**Post-Treatment CWHR**	**Post-Treatment Canopy Cover**	**Post-Treatment Basal Area**
218	5M	4	210	B	5P	3	180	1	5M	4	180
219	4M	4	210	A	4P	3	160	1	4M	4	170
220	4M	4	200	A	4P	3	150	1	4M	4	170
221	4M	5	220	A	5P	3	170	1	4M	4	190
224	4M	4	230	M	4P	3	190	3	4M	4	180
231	4P	3	140	A	4P	2	120	1	4P	3	120
232	5M	4	220	B	5P	3	190	1	5M	4	200
236	4M	4	220	A	4P	3	170	1	4M	4	180
238	3M	5	120	A	3P	3	80	1	3M	4	70
240	3P	3	80	D	4P	2	80	4	4P	3	80
245	4P	3	120	A	4P	2	100	1	4P	3	110
246	3P	3	80	A	3P	2	70	1	3P	3	70
256	3P	3	50	D	3P	2	50	4	3P	3	50
259	4P	3	130	D	4P	2	120	4	4P	3	120
263	4P	3	140	D	4P	2	130	4	4P	3	130
266	3P	3	80	A	3P	2	70	1	3P	3	60
266	3P	3	80	A	3P	2	70	1	3P	3	60
266	3P	3	80	A	3P	2	70	1	3P	3	60
275	4P	3	120	A	4P	2	100	1	4P	3	100
884	4M	4	260	M	4P	3	190	3	4M	4	210
918	4D	7	320	O	4M	5	210	2	4D	6	240
971	4P	3	0	A	4P	2	0	1	4P	3	0
974	4M	4	210	E	4P	3	160	4	4M	4	170
975	4M	4	260	A	4P	3	180	1	4M	4	190