Sierra Nevada
Forest Protection Campaign

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Dear Mr. Peña,

These comments on the proposed Freeman Project are submitted on behalf of the Sierra Nevada Forest Protection Campaign, the Sierra Club, and the Plumas Forest Project (collectively, the "Campaign").

The Freeman 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 the Campaign's appeal of the 2004 ROD and FSEIS (SNFPC et al. 2004), both the new plan and the FSEIS fail to comply with the National Forest Management Act (NFMA), the National Environmental Policy Act (NEPA), and other environmental laws. The Freeman Project as presently proposed is also contrary to law for the reasons set forth in the Campaign's appeal (a copy of which was provided as part of the Campaign's scoping comments and incorporated by reference herein).

In addition, the Campaign provides the following comments on the Freeman Project Draft Environmental Impact Statement (DEIS). The DEIS considers three action alternatives, each of which propose significant logging of trees up to 30" dbh throughout the project area, with likely adverse impacts on the long term viability of the California spotted owl, American marten, Pacific fisher and other forest wildlife. For the reasons set forth below, these alternatives are thus contrary to NFMA, NEPA and other applicable laws. The Campaign instead requests that the Forest Service consider an alternative that meets project objectives to reduce fire risk while having less significant impacts to forest wildlife. As discussed below, an Alternative that limits logging to trees less than 20" diameter at breast height (dbh) will reduce fire risk, particularly around communities, while retaining more continuous and unfragmented interior forest habitat for sensitive species.

I. Overview of Freeman Project and its Environmental Consequences

The Freeman Project Alternative 4 ("Preferred Alternative") involves construction of

3,037 acres of defensible fuel profile zones (DFPZs), 458 acres of which are located in the Wildland Urban Interface ("WUI"). The Preferred Alternative also involves 174 acres of group selection logging, and 2,419 acres of thinning treatments (DEIS, pp. 60-61.) Overall, the Preferred Alternative treats approximately 5,792 acres, (DEIS p. 46),

The project area provides critical habitat for sensitive and imperiled species including the California spotted owl, the American marten, and the Pacific fisher. The Freeman Project is located in the vicinity of Area of Concern (AOC) Nos. 1 and No. 2 for the California spotted owl, meaning that it is "characterized by habitat fragmentation that decreases the density of owl pairs, makes successful dispersal more difficult, and reduces the likelihood of quick replacement of owls in vacated habitat." (Verner et al. 1992, p. 45). Any further reduction of habitat in this region thus threatens long term owl viability.

The DEIS states that the Freeman Project Wildlife Analysis Area includes 41,388 acres of Forest Service land, (p. 149), containing 24,900 acres of suitable habitat, (p. 172). However, the Freeman Project proposes to eliminate over 3,000 acres of this habitat through logging within DFPZs, thinning areas and groups that will remove trees up to 30" diameter in many stands. Within DFPZs and most thinning units, canopy cover will be reduced to 40 percent or lower. Large snags and downed wood will also be removed. In sum, by lowering canopy cover and removing co-dominant larger trees and remaining structural characteristics of old forests, the Freeman Project will degrade habitat for old forest associated species like the California spotted owl, American marten and Pacific fisher.

The environmental impacts of this project will be significant. The DEIS estimates that 3,416 acres of nesting and foraging habitat for the California spotted owl, approximately 14 percent of the current nesting and foraging habitat within the Wildlife Analysis Area, will be rendered unsuitable. The Preferred Alternative will also render 630 acres of owl home range core areas (HRCAs) unsuitable for owl occupancy. (DEIS, p. 226). HRCAs are designed to include "the best available California spotted owl habitat in the closest proximity to the owl activity center." (USDA Forest Service 2004a, p. 39). Extensive logging within HRCAs is likely to adversely affect owl reproduction and occupancy. (Bond 2006**)**. Moreover, the DEIS (p. 231) acknowledges that matrix lands between existing owl PACs and SOHAs are currently in poor condition due to past logging and wildfires. Given the poor habitat condition in the Freeman Project area and statistical evidence that owls are likely declining in the region, (Franklin *et. al.*), the Forest Service cannot ensure viability of owls in the Plumas National Forest when it implements aggressive logging projects such as this one that adversely affect owl HRCA habitat. (Bond 2006.**)**

The DEIS (p. 250) also projects that approximately 3,416 acres of habitat for the marten and fisher will be rendered unsuitable, which could destroy den sites and reduce north-south habitat connectivity. This habitat reduction is particularly problematic given that the marten has not been detected in the project area in recent years, thereby raising the likelihood that this area may presently act as a barrier to habitat connectivity within the Plumas National Forest. (Kucera 2006). The DEIS (p. 231) states that the Wildlife Analysis Area contains "large blocks of

contiguous suitable habitat" but does not provide any analysis how such habitat may contribute to supporting marten or fishers over their home ranges. (Kucera 2006).

The DEIS argues that the Freeman Project is necessary to reduce the risk of stand-replacing wildfire. Although we support the goal of reducing the risk of catastrophic wildfire, the Forest Service has failed to demonstrate that the intensity of proposed logging is needed to achieve this goal. The Fuels Report provides only a simplistic comparison between the action alternatives – which are nearly identical in their logging intensity of trees up to 30" dbh – and the no-project alternative, which assumes that fuel loads will remain untreated in the project area. As discussed below, this is a false choice since fuel reduction objectives can be met by reducing surface fuel loads and thinning stands. *See* Rice 2006, Bond 2006.

An alternative based upon the 2001 ROD - utilizing a 12" or 20" dbh limit and requiring retention of 50 percent canopy cover rather than 40 percent as under the Preferred Alternative - would achieve the Forest Service's fuels reduction goals with less adverse impacts on habitat for old forest associated species. As stated by owl biologist Bond "restricting the size of harvested trees to 20" diameter (rather than 30" diameter) would maintain enough canopy cover for suitable owl foraging habitat within HRCAs, while reducing the risk of intense wildfires.") (Bond 2006). For that reason, the Campaign reiterates its prior request that the Forest Service consider a less intensive logging alternative for this Project as a reasonable measure to protect communities and forest resources from catastrophic fire, while also ensuring the future viability of wildlife species in the project area.

II. THE FREEMAN PROJECT THREATENS THE DISTRIBUTION AND VIABILITY OF WILDLIFE ASSOCIATED WITH OLD FORESTS, CONTRARY TO LAW

The National Forest Management Act (NFMA) directs the Forest Service to "provide for diversity of plant and animal communities" in the planning process. 16 USC 1604(g)(3)(B). The Forest Service's regulations that implement this statutory mandate require that "[f]ish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species." 36 CFR 219.19. "For planning purposes, a viable population shall be regarded as one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area." (Id.) With respect to Forest Service designated sensitive species - which includes the California spotted owl, American marten, northern goshawk, and Pacific fisher -- the agency is further required "to insure their viability and to preclude trends toward endangerment that would result in the need for Federal listing." (Forest Service Manual 2672.1.) Through these steps in this process, NFMA imposes substantive constraints on the management of forest lands to insure biological diversity. *See Neighbors of Cuddy Mountain v. United States Forest Service,* 137 F.3d 1372, 1379- 1380 (9th Cir. 1998).

As described in this section, the Freeman Project would threaten the viability and distribution of wildlife species, including the California spotted owl, American marten, and

Pacific fisher. The Project continues the Forest Service's approach of intensive fuel reduction and logging despite the science indicating that these species are in decline and that further reduction in quality habitat poses grave risks to their future viability in this area. Moreover, the project would contribute to a trend towards federal listing of these same species, contrary to law. The DEIS and BE rely heavily on the 2004 Framework to conclude that the Freeman Project will not threaten the viability of sensitive species. However, as demonstrated in the Campaign's appeal of the 2004 Framework (SNFPC et al. 2004), that conclusion is unwarranted. In her review of the Freeman planning documents, Bond concludes "that the proposed DEIS action will fail to ensure the long-term viability of the California spotted owl population within both the Freeman Project area and the northern Sierra Nevada at an acceptable level of risk." (Bond 2006).

A. California Spotted Owl.

The Freeman Project threatens the viability and distribution of the California spotted owl both within the project area and in the surrounding Plumas National Forest.

1. Overview of Owl's Status.

The California spotted owl is threatened with extinction and requires protection under the Endangered Species Act. In April 2000, the Sierra Nevada Forest Protection Campaign and other groups petitioned the U.S. Fish and Wildlife Service ("FWS") to list the owl. The petition was denied, in large part because the U.S. Forest Service had adopted the Sierra Nevada Framework in 2001. Based on the substantial protection for the owl's habitat in the 2001 Framework, the Fish and Wildlife Service concluded that listing was not warranted. The Campaign and other groups have challenged that decision in court.

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. (Verner 2003; Blakesley and Noon 2003; Noon 2004; Peery 2004; Bond 2003; Franklin et al. 2003). Because the Forest Service has revised and weakened the 2001 Framework, which served as a basis for the FWS' determination that the owl did not require listing, the Campaign and other groups recently filed an updated listing petition to the FWS. (Center for Biological Diversity et al. 2004).

In response to the updated petition, on June 21, 2005, the FWS issued a 90 day finding that the updated petition presented substantial scientific information indicating that listing the species may be warranted and therefore initiated a status review. *See* 70 Fed. Reg. 35607 (June 21, 2005, Endangered and Threatened Wildlife and Plants: 90-Day Finding on a Petition To List the California Spotted Owl as Threatened or Endangered.) A primary reason for the FWS' decision to revisit the issue of whether the spotted owl should now be listed under the ESA was the FWS' finding that the 2004 Framework no longer provided the same level of protection from

timber harvesting as had been afforded by the 2001 Framework. (*See e.g.,* 70 Fed. Reg. 35611-35612.)

As detailed in the updated listing petition, there is substantial cause for concern regarding the owl's status in the Sierra Nevada. More specifically, ongoing demographic research in the Lassen National Forest strongly suggests that the owl's population is declining in the area. For example, Blakesley and Noon (2003) found that four measurements of population trends for California spotted owls in the Lassen study area from 1990-2001 showed declines over time, and no analyses showed increasing trends. More recent results of spotted owl demographic studies within the HFQLG project area indicate a rate of population change of 0.985, indicating an average annual population decline of 1.5% (Franklin et al., 2004). Further, a decline in site occupancy during the same time period (Blakesley et al., in press) suggests that this measured population decline is real. Thus, in considering spotted owl viability, the Forest Service must proceed with extreme caution in implementing any project that adversely affects suitable owl habitat or dispersal matrix lands. (Bond 2006).

Site-specific information from the Freeman Project area exacerbates these concerns. As discussed in the DEIS, although owl HRCAs exist in the wildlife analysis area, they are also confined across the Freeman Project area by large blocks of unsuitable habitat." (DEIS, p. 231) Thus the DEIS (p. 228) concludes that it is uncertain whether the same number of owl sites occupied in 2002, 2003 and 2004 would be occupied post-project. This shows that further intensive logging in and around areas where owls still persist poses grave risks.

In sum, there is substantial uncertainty, and thus substantial cause for concern regarding the owl's population throughout the Sierra Nevada, within the Plumas National Forest, and within the Freeman Wildlife Analysis Area. (Bond 2006).

2. Impacts of the Project on the California Spotted Owl

The Freeman Project will adversely affect the California spotted owl and its habitat by logging medium and large trees up to 30" diameter, reducing canopy cover to 40 percent or below within defensible fuel profile zones (DFPZs) and thinning units and still lower within group selection units, simplifying forest canopy, and reducing the number of large snags and down logs. (Bond 2006). The Project would eliminate or degrade 3,416 acres of owl foraging and nesting habitat, or approximately 14 percent of the current nesting and foraging habitat within the Wildlife Analysis Area. (DEIS, p. 225, Table 3.44). The Preferred Alternative will further eliminate 630 acres of owl home range core areas (HRCAs). (DEIS, p. 227, Table 3.46).

a. Impacts to Home Range Core Areas

The loss of habitat is a particular concern when it occurs within owl home range core areas (HRCAs), which are designed to include "the best available California spotted owl habitat in the closest proximity to the owl activity center." (USDA Forest Service 2004a, p. 39). Extensive logging within HRCAs is likely to adversely affect owl reproduction and occupancy.

For example, a study by Bart (1995) of 102 northern spotted owl sites in Oregon found that fecundity and adult survival decreased with decreasing amounts of suitable habitat around the core activity centers, and there was no threshold above which no increase in fecundity or survival occurred. The author concluded that "removing any suitable habitat within the vicinity of the nest tends to reduce the productivity and survivorship of the resident owls." As stated in the Forest Service's Sierra Nevada Science Review: "In the absence of clear reasons why these results would not apply to the California spotted owl as well, they need to be considered in planning for the owls in the Sierra Nevada." (USDA Forest Service 1998, p. 24).

The Forest Service has previously recognized that the 2004 Framework "would reduce the amount of multi-story canopy, stand complexity and canopy closure" within owl home range core areas, "which could affect owl reproductive output." (USDA Forest Service 2003, p. 187). However, the FSEIS projected that only 20 percent of total HRCA acres would be logged within the first two decades across the region. (USDA Forest Service 2004b, p. 270)

Here, the Freeman Project proposes to log approximately 630 acres of owl home range core areas. In particular, the Project will reduce suitable HRCA habitat from 597 to 310 acres in PL203, a reduction of 48%, and from 476 to 134 acres in PL204, a reduction of 72%. (DEIS, p. 227, Table 3.47.) The remaining suitable habitat in these HRCAs will be 44% (310/700 acres) for PL203 and 17% (775/134 acres) for PL204. *See* DEIS p. 227, Tables 3.46-3.47. The Campaign agrees with the Forest Service's conclusion that these significant habitat reductions in critical owl habitat pose a "high risk" to PAC viability. ***Id.*** Further, as noted by owl biologist Bond, this "habitat loss within the HRCAs poses a real risk to the long-term productivity of owl territories within the analysis area." (Bond 2006).

Further, both the DEIS and BE confirm that existing habitat may already be inadequate to support owls in the Wildlife Analysis Area. For example, the DEIS states that although owl HRCAs are well distributed across the wildlife analysis area, they are also confined across the Freeman Project area by large blocks of unsuitable habitat." (DEIS, p. 231.) Thus the DEIS concludes that it is uncertain whether the same number of owl sites occupied in 2002, 2003 and 2004 would be occupied post-project. (*Id*.) Yet despite these fndings, the Forest Service states:

> Because PACs and SOHAS are avoided by treatments and the majority of the habitat within the 700 acre plus HRCAs would not be affected by treatments, it seems reasonable to assume that occupancy would be maintained.

(DEIS, p. 231.)

The Forest Service does not explain how it can ensure the future viability of the spotted owl in the Wildlife **a**nalysis Area, and in the Forest at large. The Project intends to reduce the acreage of HRCAs without any real assessment of what kind of habitat is left over the remainder of the owl's home range. As discussed, there is considerable evidence that HRCAs are critical to maintain owl viability. Rather than proceeding cautiously, the Forest Service instead dismisses the impacts to owl viability from logging co-dominant (>20" dbh) trees in the

HRCAs as a "minor issue." (DEIS, p. 82) It does not appear the Forest Service has any basis for that determination. Instead, as noted by Bond 2006: "Habitat loss within the HRCAs , locally and cumulatively, poses a real risk to the long-term productivity of owl territories within the Project assessment area."

b. Impacts to Owl Home Ranges are Not Discussed

Besides the loss of HRCA habitat, the DEIS and BE lack any analysis of the quality and spacing of available habitat with owl home ranges associated with the PACs within the Wildlife Analysis Area. The DEIS notes that logging within HRCAs and home range areas may increase competition among remaining owl pairs, but offers no analysis of why such loss of quality habitat does not pose a high risk for the owl. There is considerable evidence that owls require home range habitat to retain certain minimal habitat components such as interior forest habitat, multiple canopy layers and minimum canopy coverage. Yet here, the Forest Service appears satisfied to relegate owls to 300 to 500 acre habitat blocks, the size of the PACs and segments of remaining HRCAs that are to be protected. As noted by the 2001Framework:

> PACs alone are not an adequate conservation strategy for maintaining a viable population of owls. They are important because they do provide protection to nest sites. However, the distribution and abundance of owl habitat around PACs and across the landscape are critical considerations that will determine the ultimate adequacy of a PAC-based conservation strategy for maintaining owl viability in the Sierra Nevada.

(USDA Forest Service, 2001a, Chap. 3, part 4.4, p. 85.) This finding is a continuation of the prior rejection by federal scientists of the SOHA strategy of isolating blocks of habitat from each other, which was found not to be a viable strategy for preserving owl populations. (See Verner 1992, p. 15 ("We expect that owl pairs in SOHAs would disappear at a relatively high rate, leaving the SOHAs unoccupied and at least temporarily nonfunctional.")

As noted by the Sierra Nevada Framework, "[p]rotecting occupied, as well as suitable but unoccupied habitat, over the long term is important to insure species viability. (USDA Forest Service, 2001a, Chap. 3, part 4.4, p. 82.) According to the Framework:

> [C]onservation efforts should therefore consider not only occupied habitat, but also suitable unoccupied habitats, in developing conservation strategies for species for which dispersal may function as a primary limiting factor. (*Id.*)

Indeed, Framework scientists specifically found that timber harvesting poses serious short term risks to the owl due to habitat fragmentation:

> [R]etaining existing suitable habitat and improving habitat conditions over the next couple of decades may be particularly important for stabilizing owl populations. Research into population dynamics at larger scales has suggested the possible existence of habitat thresholds, below which populations may go extinct in the presence of suitable habitat

> due to constraints on successful dispersal. With current population declines, vegetation treatment impacts over a short time period may involve risks to the spotted owl population that are not evident by considering longer-term habitat projections alone.

(See e.g., USDA Forest Service, 2001a, Chap. 3, part 4.4, p. 95. *See also id.* at p. 96 ("[W]here a greater proportion of owl home ranges have less than desired amounts of habitat to begin with, reducing the amount of habitat within the few home ranges that exceed the habitat threshold, prior to increasing amounts of habitat in other owl home ranges, could increase the risk of worsening conditions and increasing nearest neighbor distances for owl sites within these areas.")

Here, the Forest Service does not acknowledge that reduce quality habitat in owl home ranges will increase the risk of worsening conditions and increasing nearest neighbor distances for owl sites within these areas. As noted by Bond:

> Although the Freeman Project would avoid Protected Activity Centers (PACs) and Spotted Owl Habitat Areas (SOHAs), these areas constitute a small fraction of the habitat required by owls to successfully forage, breed, and survive. Estimated spotted owl home-range sizes in Sierra Nevada conifer forests from radio-telemetry studies are highly variable, but are on the order of several thousand acres.

(Bond 2006). Rather than protecting these home range and matrix habitat, Freeman Project "would greatly increase nearest-neighbor distances and habitat fragmentation." (*Id*.)

c. Effects of Removing Trees Between 20-30" DBH is Not Discussed

The Forest Service dismisses the impacts of harvesting co-dominant conifers between 20-30" dbh. *See* DEIS, p. 82. As noted in the Campaign's appeal of the 2004 ROD, research indicates that 20-30" diameter trees are an important component of owl foraging and nesting habitat. For example, Call et al. (1992) showed that owls strongly select stands with a high basal area of trees between 20.7-35.4 inches for foraging. In fact, the basal area of trees in this size class was the second most important variable (out of 54) for discriminating owl foraging stands from random stands. Bias and Gutierrez (1992) found that a greater basal area of trees in the 20.7-35.4 inch size class occurred in owl nest stands than in random stands. Blakesley (2003) documented greater nest success in stands and greater survival in territories dominated by medium and large trees. The 1992 CASPO report found that nearly 25 percent of owl nest trees were less than 30" dbh. (Verner et al. 1992, p. 92). In sum, as the U.S. Fish and Wildlife Service has expressed, "a significant number of potential nest trees could be removed" by logging trees less than 30" dbh. (USDI Fish and Wildlife Service 1999, p. 7).

Other scientists have described the 2004 ROD's proposal to log trees up to 30" dbh as "perhaps one of the most poorly justified components of the new management plan." (Noon 2004, p. 2). "Not only does this exacerbate unnatural stand structures by further reducing the number of large diameter trees and put old growth wildlife species at increased risk, it is not a

justified priority under any scientifically credible fuels reduction plan." *Id*. "Without any information to the contrary, management plans should assume that 20-30 inch trees constitute an important component of Spotted Owl habitat and that removing significant numbers of these trees could have a negative effect on Spotted Owl population viability." (Peery 2004, p. 2; Bond 2003).

Removing trees under 30" diameter also has the effect of "making large tree recruitment in the future more uncertain," according to the Forest Service's Washington Office. (Gladen 2003, p. 11). Owl scientists have similarly concluded that new plan "fails to ensure adequate recruitment of large trees, which are a critical component of owl nesting habitat, once the stock of mature and old-growth trees becomes reduced due to natural mortality." (Peery 2004, pp. 2-3; Verner 2003b, p. 3).

In its response to public comments, the Forest Service argued that the new plan's 40 percent basal area retention standard "has the effect of limiting the number of larger trees less than 30" dbh that can actually be removed." (FSEIS, Vol. 2, p. 50). The FSEIS further states that "in most cases, except for previously thinned stands, the basal area retention rule will lead to lower limits than the 30-inch maximum." (FSEIS, App. B, p. 401). However, the FSEIS fails to include sufficient information to allow the reader or the decision maker to translate the basal area retention standard into dbh limits for typical forest stands in the Sierra Nevada. The Science Consistency Review expressed this same concern:

> The effects of the S2 prescriptions are difficult to quantify or interpret. What does retention of 40% of the basal area in the largest trees typically result in? It would be helpful to illustrate this with some examples in different kinds of owl habitat. (Stine and Keane 2003, p. 3).

Similarly, in the Freeman Project, the Forest Service provides no information as to how many larger co-dominant conifers will be removed, except to provide information that over 3,000 acres of suitable habitat will be eliminated. Thus, it is undisputed that the Project proposes logging of a significant proportion of 20-30" trees, which are an important element of owl habitat. As discussed below, the Forest Service's logging of these co-dominant trees with accompanying significant impacts on owls is particularly problematic given that such a level of logging is unnecessary to meet the Forest Service's fuel objective goals.

In sum, the Forest Service is not relying on the vest available science when it assigns a "minimal" risk to the Preferred Alternative. Indeed, the Forest Service is not relying on any science, since the best available science says the owl is either declining or marginally stable, not that further logging will pose a low risk to the owl In contrast, Bond concludes:

> The Freeman project's reliance on suitable habitat definitions below the level selected by California spotted owls is problematic and contrary to the recommendations in the 2001 Framework Plan (2001 SNFPA FEIS Vol. 3, Chapter 3, Part 4.4.2.1). In addition, removing trees within the 20"-29"diameter-size class eliminates the future cohort of trees

that will fill the canopy layer when older, mature trees die of natural causes. This consistent approach of reducing owl habitat to minimum requirements leaves little room for error and is needlessly risky….

I believe that the preferred alternative poses an unacceptable level of risk to the California spotted owl population within both the Project analysis area and the HFQLG area. This population is already showing strong signs of decline, and further loss of habitat is likely to exacerbate the decline. As noted before, PACs and SOHAs are of insufficient size to adequately meet the needs of territorial adult owls, as well as other important segments of the owl population, such as dispersing juveniles and migrating and "floater" adults (Bond 2006).

d. The Forest Service Does Not Analyze the Risks of Fully Implementing the Policies of the 2004 ROD

Here the most significant potential impacts from the logging proposed in the Freeman Project are derived from the changes made in the 2004 Framework from the 2001 Framework, including increasing the tree diameter class that could be logged in sensitive areas, reducing minimum canopy covers, and de-designating old forest emphasis areas and other environmentally critical habitat from protective status.

As discussed in our scoping letter, there is strong evidence that logging pursuant to the 2004 ROD, particularly logging of medium and large trees, reduction in canopy cover, removal of large snags and down wood, and logging within owl PACs, owl HRCAs, old forest emphasis areas, and areas of concerns, will degrade owl nesting and foraging habitat and threaten the owl's viability. (SNFPC *et al*. 2004, pp. 14-20). The Forest Service's Science Consistency Review concluded that the new plan "incurs greater risk" to the owl than the Framework (Stine and Keane 2003, p. 9), and the agency's Washington Office Director of Fish and Wildlife found that the new plan is "a prescription for continued owl declines." (Gladen 2003, p. 11). The owl scientists who have reviewed the plan have uniformly concluded that the plan increases the risks to the owl's population, threatening the owl's viability and distribution and contributing to a trend towards federal listing under the Endangered Species Act. (Noon 2004; Verner 2003b; Blakesley and Noon 2003; Peery 2004; Bond 2003).

The BE acknowledges that the Freeman Project would degrade and remove suitable owl habitat, including extensive habitat within owl home range core areas. However, because the project implements the 2004 Framework and QLG project, the DEIS (p. 234-235) concludes that the project "would not contribute to a trend toward listing nor cause a loss of viability." This conclusion is unsupported by science or prior environmental review by the Forest Service. *See e.g.* Bond 2006 ("I and other spotted owl biologists have concluded that the 2004 Framework Plan Amendment and HFQLG Plan pose unnecessary risks to the future survival of the California spotted owl.")

As demonstrated in the critiques of leading spotted owl biologists (Verner 2003;

Blakesley and Noon 2003; Noon 2004; Peery 2004; Bond 2003; Franklin et al. 2003), the 2004 Framework threatens the owl'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 QLG project where the Freeman Project is located.

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 project would significantly degrade owl habitat. (USDA Forest Service 1999b). Of all the alternatives considered, full implementation of the QLG project posed the greatest overall risks to the spotted owl. (USDA Forest Service 1999a, p. 82). The BA/BE concluded as follows:

> Alternative 2 [the pilot project] would reduce the amount of California spotted owl … nesting habitat by 7% over the life of the pilot project, and reduce the amount of foraging habitat by 8.5%. Such reductions in suitable habitat would decrease the number of owl home ranges with more than 50% suitable habitat by 11% over the term of the project. Alternative 2 also rated the lowest among the alternatives in minimizing habitat fragmentation and impacting spotted owl Areas of Concern.

In light of the recent demographic studies showing declining spotted owl populations, such impacts to owl habitat could pose a serious risk to the viability of the owl in the planning area, thereby making the implementation of Alternative 2 inconsistent with the National Forest Management Act and its implementing regulations.

In order to minimize the threat to the viability of the owl in the planning area, it is necessary to add mitigation, beyond the minimum CASPO interim guideline requirements to maintain suitable habitat within the planning area. (USDA Forest Service 1999a, emphasis added).

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

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

> "The Service is concerned that loss of spotted owl habitat will occur through DFPZ construction, thinning, individual tree selection and group selection treatments." (pp. 6-7)
>
> Protecting only PACs and SOHAs "may result in the loss of suitable habitat in a significant portion of an owl's home range and in dispersal habitat outside and between

home ranges. The Service agrees that management actions that reduce habitat suitability within home ranges can accelerate population declines." (p. 7)

The project "does not take into account the juxtaposition of suitable nesting, roosting, and foraging habitat and other vegetation types, which may result in assemblages of habitat that do not promote fitness of owls." (p. 7)

"A reduction in habitat quality could reduce owl densities …, limiting successful mate finding and dispersal and increasing nearest-neighbor distance." (p. 7)

"The Service is concerned that reduction of suitable configurations of nesting, roosting, and foraging habitats in combination with declining populations and unforeseen contingencies (e.g., fire, disease and insect outbreaks, and drought) within spotted owl home ranges will have significant adverse effects on spotted owl population viability." (p. 8)

"The Service is concerned that implementation of [the pilot project] may cause negative impacts to California spotted owls due to habitat fragmentation." (p. 9)

"Due to the level of snag and large woody debris removal as proposed, the Service is concerned that [the pilot project] will remove suitable den sites and food sources of northern flying squirrels and consequently reduce the prey base for California spotted owls." (p. 10)

In sum, the Fish and Wildlife Service concluded as follows:

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

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

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

"Over the 5-year timeframe of this project, there would be greater potential for increasing nearest neighbor distances between owl sites on these forests, increasing uncertainties associated with effective dispersal and mate-finding." (USDA Forest Service 2001a,

Volume 3, Chapter 3, part 4.4, p. 86).

"If management activities reduce owl occupancy and productivity across this area (as expected under alternative 2 of the HFQLG), opportunities to stabilize population declines could be substantially compromised." (USDA Forest Service 2001a, Volume 3, Chapter 3, part 4.4, p. 94).

"Population declines that would occur within the three geographic areas of concern located within the HFQLG project area, exacerbate the overall risk to spotted owl population…. Actions proposed under Alternative 2 of the HGQLG will widen gaps between habitat parcels and probably reduce the densities of owls within [Area of Concern 1." (USDA Forest Service 2001a, Volume 3, Chapter 3, part 4.4, p. 94).

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

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

The owl biologists have consistently expressed serious concerns about fully implementing the QLG project. *See e.g.*, 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.

In sum, there is substantial evidence indicating that full implementation of the QLG project pursuant to the 2004 ROD would threaten the viability of the California spotted owl and other species, contrary to law. Therefore, the fact that this project implements the 2004 ROD in no way ensures the owl's viability.

The 2004 ROD and FSEIS did not analyze the site-specific impacts of logging pursuant to the Freeman and similar projects. Rather, the FSEIS deferred detailed analysis of environmental impacts to future site-specific projects, such as Freeman. As discussed above, however, the Freeman Project DEIS does not provide any analysis or basis for why further cutting in critical owl habitat and further reduction of owl habitat home range will not contribute

to long term population decline. Given that the analysis in the BE demonstrates the possibility of significant adverse impacts to the owl and its habitat, there is no legitimate basis for concluding that the Freeman Project will not threaten owl viability, despite the fact that it is being carried out pursuant to the 2004 ROD.

In sum, as Bond states in her review, "the Freeman Project is likely to threaten the distribution and viability of the California spotted owl within the project area and beyond, contributing to the present trend towards federal listing." (Bond 2006).

B. American Marten.

As described in detail in the attached declaration of forest carnivore expert Tom Kucera (Kucera 2006), the Freeman Project threatens the viability and distribution of the American marten within the project area and the surrounding national forest.

1. Overview of Marten's Status.

Kucera et al. (1995), in their paper describing the current distribution of the American marten in California, noted the marten's apparent absence in much of Plumas County, despite considerable survey effort there. Subsequent survey efforts have reaffirmed the conclusion that martens are absent from much of their historic range in the northern Sierra Nevada, especially on the Plumas and Lassen national forests (USDA Forest Service 2001a, Vol. 3, Chap. 3, Part 4.4, p. 22; Zielinski 2002). Further, recent papers by USDA Forest Service researchers (Zielinski 2004, Zielinski et al. 2005), based on extensive survey efforts, have reinforced concerns about the marten's absence from much of the Plumas National Forest. Zielinski et al. (2005) includes marten (with fisher) as a species with "substantial changes in distribution" in the northern Sierra, including "large gaps between contemporary detections that were not present historically." The paper notes that areas where marten are now absent "have relatively little forests with late seral/old growth attributes," whereas the areas where marten were detected "coincide with protected areas (national parks and wilderness)" with greater LSOG attributes. It concludes that reductions in marten (and fisher) distribution "are probably more closely linked to the influence of timber harvest and forest management during the historical and contemporary periods." *See also* Kucera 2006.

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, habitat changes that would alter the marten's preferred habitat, such as the changes that would result from the Freeman Project, could reduce the marten's range and distribution and lead to local extirpation

2. Habitat Associations of Martens

Throughout their range, American martens are associated with late-seral coniferous forests with abundant large structure, including live trees, snags, and logs, and relatively closed canopy cover. As described by Dr. Kucera, medium and large trees with diameter 20" and greater constitute an important structural element of marten habitat. (Kucera 2004a, p. 2). Particularly on the west slope of the Sierra Nevada, 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. As noted in the BE (p. 41), research indicates that marten avoid stands with less than 50 percent canopy cover. Reducing canopy cover to 40 percent in such forests is likely to adversely affect the marten's use of the area.

Martens are also known to avoid fragmented forest, that is, forest with many open areas. Hargis and Bissonette (1997) and Hargis et al. (1999) found that martens did not occur in forests that contained more than 25% openings, including natural openings and those resulting from timber harvests. Additional research (*see e.g.*, Chapen et al. 1998, Potvin et. al. 2000) also documents the deleterious effects of extensive forest openings on marten distribution and habitat use.

3. Impacts of the Project on the Marten

The Freeman Project will adversely affect the marten and its habitat, threatening the marten's viability and distribution in the planning area. As discussed in the BE, logging pursuant to the Project has the potential to destroy marten den sites. Overall, the Freeman will render approximately 3,416 acres of habitat for the marten unsuitable. (DEIS, p. 250). This habitat reduction is particularly problematic given that the marten has not been detected in the project area in recent years, thereby raising the likelihood that this area may presently act as a barrier to habitat connectivity within the Plumas National Forest. As stated by Kucera:

> The apparent absence of the marten within the Freeman planning area raises a broader concern regarding the marten's viability and distribution in the surrounding area and in the northern Sierra Nevada more generally. The marten's absence in the planning area is likely linked to the history of extensive logging in the area, which has substantially reduced the amount of large trees and large snags. Protection and restoration of marten habitat within the Freeman planning area would increase the likelihood of marten becoming reestablished in the area. In contrast, the Freeman Project will further degrade remaining potential marten habitat, reducing the possibility of marten reoccupying the area and diminishing the connectivity of marten habitat in the region.

(Kucera, 2006.) Kucera goes on to note that the reduction in overall quality marten habitat is "is particularly problematic given that the marten has not been detected in the project area in recent years, thereby raising the likelihood that this project may 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." *Id*.

As described by Dr. Kucera, the project area appears to be extremely important to the marten population at a landscape scale. Here, infrequent detections of marten in the project area indicate that the existing forest carnivore network is inadequate to protect the species, or even allow for martens to be viable in the Wildlife Analysis Area. Yet instead of protecting and enhancing such habitat, the Preferred Alternative will treat approximately 1,000 acres of the forest carnivore network will be treated and 897 acres of this habitat rendered unsuitable. Given the absence of marten in the region, Kucera notes:

> [T]he Forest should be increasing, not decreasing, the area of its forest carnivore network. In light of the apparent decline of marten in this area, I question how the Forest Service can find that over 3,000 acres of marten habitat can be rendered unsuitable, without similar significant impacts on the habitat "network" that would be required for marten to recover and regain viability as a species in this region.

(Kucera 2006.)

The DEIS acknowledges that the Freeman Project could degrade marten habitat, which is likely to disrupt north-south habitat connectivity for marten. However, because the Project implements the 2004 ROD, the DEIS concludes that the Project is not likely to threaten the marten's viability. As Dr. Kucera explains in his review, this conclusion is unfounded.

First, the forest carnivore experts who have reviewed the 2004 Framework have uniformly concluded that the new 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 Freeman Project is located. (Barrett 2004; Kucera 2004b; Buskirk 2003). The U.S. Fish and Wildlife Service has already 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 Freeman and other planned timber sales, would have the following adverse impacts on the marten and its habitat:

> <u>Reduction in suitable habitat:</u> 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 new plan allows 8,700 acres per year of group selection openings in the QLG area. (USDA Forest Service 2004b, p. 259). As described above, 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 2004b, 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. First, 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. Second, "constructing the DFPZs will also result in significant road construction, which will additionally fragment marten habitat and potentially lead to an increase in marten mortality from vehicles." (Kucera 2004, p. 3). The Fish and Wildlife Service expressed concerns that "marten may not move across linear DFPZs, limiting population expansion and colonization of unoccupied habitat … thus precluding future recovery options." (USDI Fish and Wildlife Service 1999, p. 12). As a consequence, "the pilot project could lead to the isolation and local extirpation of marten." (Barrett 1999, p. 6).

Construction of new roads. Full implementation of the QLG project will involve approximately 100 miles of new road construction. (USDA Forest Service 2004b, p. 325). The best available research indicates that roads can directly affect marten through road-related mortality and indirectly affect marten by fragmenting habitat and discouraging marten movement. As acknowledged in the Framework FEIS: "Roads can impact martens in the following ways: (1) vehicles can kill animals and potentially increase mortality rates; (2) roads can fragment habitat and affect the ability of animals to use otherwise suitable habitat on opposing sides of the road; (3) roads, and the presence of vehicles and humans, can cause wildlife to modify their behavior in the vicinity of roads; and (4) roads allow human access to wildlife habitat and can increase the direct impacts of human activities." (USDA Forest Service 2001a, Volume 3, Chapter 3, part 4.4, p. 27). Therefore, alternatives that increase road density increase risk to martens. (Ibid., p. 30).

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 and in eastside forests, 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 2004b, pp. 2-3, emphasis added).

Therefore, the fact that the Freeman Project implements the 2004 ROD in no way ensures the marten's viability. As Kucera notes:

> By reducing the amount of marten habitat and increasing the percentage of forest openings, the Freeman Project may adversely affect the marten, particularly when considered together with other past, present, and planned logging within the Quincy Library Group pilot project area. I have previously reviewed the QLG project and concluded that it is likely to threaten the viability and distribution of the marten in the northern Sierra Nevada (Kucera 2004b). The Freeman Project will substantially contribute to these adverse impacts.

(Kucera 2006)

In addition, the 2004 ROD and FSEIS did not analyze the site-specific impacts of logging pursuant to the Freeman and similar projects. For example, as stated in Volume 2 of the FSEIS (p. 40): "Since the extent of openings will be dependent upon site-specific vegetation conditions and the placement of strategically placed area treatments, the effects to local marten populations will need to be evaluated at the project and forest level." Given that the analysis in the DEIS demonstrates the possibility of significant adverse impacts to the marten and its habitat, relying upon the 2004 ROD to "presume" marten viability is unjustified. In short, the conclusion in the BE (p. 147) that the Freeman Project is not likely to threaten the viability of the marten or contribute to a trend towards federal listing under the Endangered Species Act "is not supported by analysis in the record." (Kucera 2004a, p. 3; *See also* Kucera 2006.)

In the face of evidence suggesting that the Forest Service's approach may be jeopardizing the marten in the Wildlife Analysis Area, the Forest Service appears to rely on the existence of habitat corridors to ensure viability. Kucera strongly disagrees pointing out that:

> The DEIS (p. 253) states that the proposed action will potentially contribute to cumulative effects in the carnivore network habitat but would not increase any "large scale, high contrast fragmentation above existing levels." I do not see any basis for this statement. The proposed fuel treatments, thinning and group selection will reduce available habitat and decrease the size of remaining contiguous suitable habitat blocks. I believe the proposed action risks fragmenting marten habitat even more than already exists in this area. However, without more information such as how these habitat blocks function across the landscape, it is impossible to evaluate this important aspect of marten ecology….
>
> .. Nor do the planning documents analyze the amount of marten habitat that will be lost if other present and planned projects are implemented. Similarly, the DEIS does not disclose the extent to which these projects will create additional forest openings, thereby contributing to the problem identified earlier. .

(Kucera 2006) In sum, Kucera concludes:

> I believe that the current absence of marten in the planning area, despite its historical presence, is likely due in large part to the inadequacy of the present carnivore network in preserving sufficient amounts of connected, high quality habitat for this species. Given that there is no evidence that the existence of the forest carnivore network has provided any protection for marten habitat within the Freeman project, any implication that the network will in some way provide habitat connectivity in the future appears to be unfounded

C. Pacific Fisher

As described in the attached declaration of forest carnivore expert Tom Kucera (Kucera 2006), the Freeman Project threatens the viability and distribution of the Pacific fisher within the project area and the surrounding national forest.

1. Overview of Fisher's Status.

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 Freeman Project would degrade fisher habitat by logging medium and large trees, reducing canopy cover, and removing large snags and down logs.

The USDI Fish and Wildlife Service has concluded that the fisher warrants protection under the Endangered Species Act. The 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 Service specifically mentioned "timber harvest, fuels reduction treatments, and road construction" on federal lands as threats to fisher "distribution,

abundance, and recovery/recolonization potential." Under these circumstances, the fisher's habitat in the Sierra Nevada requires protection and restoration, not further degradation. Unfortunately, as Dr. Kucera concludes, "the Freeman Project will further degrade fisher habitat within the project area. (Kucera 2006).

As discussed in the BE, the fisher's current distribution in California appears to comprise 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 the fisher warranted listing as threatened or endangered. The BE correctly states (p. 19) that because of this distribution, "Maintenance of connectivity is the premier issue for fisher populations."

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).

2. Impacts of the Project on the Fisher.

The Freeman Project area appears to be particularly important in reestablishing habitat connectivity for the fisher. Fishers have been reported in the Plumas National Forest as recently as 2002. (See Basin Group Selection Project BE, p. 33; USDI 2004. p.18771). The possible occurrence of this imperiled species in the region increases the importance of protecting and restoring the remaining fisher habitat so as to allow for eventual connection with the fisher population in the southern Sierra Nevada. Unfortunately, by allowing significant reduction of fisher habitat, the Freeman Project will reduce the likelihood that the project area can support fisher or contribute to a viable and well-distributed fisher population in the northern Sierra. (Kucera 2006.)

Further, the BE acknowledges that implementing the Freeman Project will further reduce habitat connectivity for the fisher. The QLG ROD requires that "habitat connectivity … would be maintained to allow movement of old forest … dependent species between areas of suitable habitat." (USDA Forest Service 1999c, p. 9). Because the Freeman Project would further impair habitat connectivity for the fisher, implementing the project would also be contrary to the QLG ROD.

The conclusion in the BE that the Freeman Project is not likely to change current viability for the fisher is not supported by the analysis in the BE. In fact, the analysis of the Freeman Project's potential impacts to fisher in the DEIS and BE is virtually non-existent, despite the potential for significant impacts. Moreover, for the same reasons set forth above with respect to impacts on marten, the planning documents fail to include the information and analysis that would be necessary for a careful and thorough review of likely impacts on fisher, including the amount and distribution of habitat that will be lost and cumulative impacts of the Freeman project and other present and planned projects in the area. (Kucera 2006.)

The DEIS (p. 254) states that fishers require approximately 31,600 acres of contiguous habitat to remain viable in an area, but then suggests that the “Freeman project falls short of this acreage figure under existing conditions” and that the “project area may not support habitat attributes needed to contribute to the potential for recovery of the species in this area of the Plumas National Forest.” The Forest Service’s suggested assertion that the project area cannot contribute to fisher (and marten) recovery is unsupported by any evidence and indicates that a lack of intent to insure viability for these species.

The Forest Service can not argue that the Freeman Project will ensure viability because it is consistent with 2004 SNFPA ROD since numerous forest carnivore experts who have reviewed that plan have uniformly concluded that it fails to ensure the fisher's viability and in fact contributes to the present trend towards extinction. (Barrett 2004; Kucera 2004b; Lewis 2003a, 2003b; Buskirk 2003) As noted by Kucera, the revised Sierra Nevada Forest Plan, including actions under the Herger-Feinstein Quincy Library Group Forest Recovery Act, would allow degradation of fisher habitat in the central and northern Sierra Nevada and southern Cascade Range. These areas are essential to facilitate the fisher's dispersal into and recolonization of this area. (Kucera 2003, Kucera 2004b, 2005).

The Freeman Project is part of the 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 Preferred Alternative 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 2004b). Therefore, the Forest Service's assertion that the Freeman Project will maintain the fisher's viability in the Sierra Nevada is unfounded and unsupported by the record in this case.

III. THE FOREST SERVICE HAS FAILED TO COMPLY WITH THE NATIONAL ENVIRONMENTAL POLICY ACT

A. The DEIS Fails to Take a Hard Look at the Potentially Significant Impacts from the Freeman Project.

The Forest Service cannot make conclusory assertions that an activity will have insignificant impact on the environment. *See Alaska Ctr. for Env't v. United States Forest Serv*., 189 F.3d 851, 859 (9th Cir. 1999). Instead, the Forest Service must take a "hard look" at the potential impacts of a proposed timber plan, and must put forth a "convincing statement of reasons" that explain why the project will impact the environment no more than insignificantly. *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1212 (9th Cir. 1998). "General statements about possible effects" and some risk do not constitute a 'hard look' absent a justification regarding why more definitive information could not be provided." *Neighbors of Cuddy Mountain v. United States Forest Service*, 137 F.3d 1372, 1380 (9th Cir. 1998).

Here, the Freeman Project planning documents fail to include important information and analysis necessary to a full and accurate assessment of impacts as set forth below. Further the planning documents do not take a "hard look" in finding that the Project poses "low risk" to owls, martens and other sensitive forest species.

1. The DEIS Fails to Disclose the Ecological Significance of the Project Area.

The DEIS and BE fail to disclose the ecological significance of the project area. The Freeman Project is located just south of Areas of Concern that threaten north-south habitat connectivity for owls, forest carnivores and other sensitive species. Yet the role of the Project and Wildlife Analysis Areas in furthering the necessary habitat connectivity is not provided in the planning documents.

The DEIS and BE indicate that the marten and fisher are absent from the Project area, and owl populations have declined in the last decade. However, the Forest Service fails to describe which habitat within the Project and Wildlife Analysis Areas is essential for declining or absent species such as the owl, marten or fisher to fully recover. As stated by Kucera:

> Given the current absence of marten from the project area, the Forest should be increasing, not decreasing, the area of its forest carnivore network. In light of the apparent decline of marten in this area, I question how the Forest Service can find that over 3,000 acres of marten habitat can be rendered unsuitable, without similar significant impacts on the habitat "network" that would be required for marten to recover and regain viability as a species in this region. Unfortunately, the DEIS and BE fail to include the kind of information and analysis that would be necessary for a thorough and careful evaluation of the Freeman Project's impacts on the marten. In fact, the planning documents provide almost no information and analysis regarding the project's likely impacts to the marten and its habitat.

(Kucera 2006.) The Wildlife Analysis Area also includes private forest lands, which the Forest Service has claimed can not be relied on to provide habitat for sensitive species when conducting impact assessment under NEPA. In sum, the DEIS does not adequately describe the importance of this area has a habitat corridor and how, given the relatively poor condition of regional habitat, the area affected by the Freeman Project will provide this critical function over the next three decades. Without this basic information, the environmental significance of the project area has not been adequately disclosed, and the project's adverse impacts have not been sufficiently analyzed, contrary to NEPA.

2. The DEIS Lacks Accurate Information and Analysis Regarding Owl Nesting Habitat and Remaining Older Forests.

The DEIS and BE fail to include accurate information and analysis regarding the location and amount of suitable spotted owl nesting habitat currently within the project area and the amount that will be rendered unsuitable if the project is implemented. Outside of PACs and SOHAs, nothing in the project description requires that such stands be protected from logging, so it is reasonable to assume that any such stands within the project area will be logged and rendered unsuitable. Campaign personnel have visited the Project Site and noted many patches of large tree, quality habitat slated for treatment in the Freeman Project. Given the critical importance of nesting habitat occurring outside of PACs and SOHAs within the Wildlife Analysis Area, the Forest Service should avoid any treatment of such patches. Indeed, many of

the Freeman Project treatment units overlap with some of the highest quality habitat in the region. Placement of the treatment units has targeted some of the best remaining habitat in the area. (Thomas 2006.) As discussed, owls require home range habitat to retain certain minimal habitat components such as interior forest habitat, multiple canopy layers and minimum canopy coverage. Yet here, the Forest Service appears satisfied to relegate owls to 300 acre habitat blocks, the size of the PACs that are to be protected, without any analysis of what quality habitat blocks would be possible with a more cautious approach to logging in these areas.

Research indicates that small pockets of large trees and old forest are important for associated wildlife like the California spotted owl (Blakesley 2003; Moen and Gutierrez 1997), Pacific fisher (USDA Forest Service 2004b, p. 139), and American marten. "Pacific fishers, American martens, and California spotted owls use small aggregates of large trees for denning, resting, and nesting sites," even within larger stands that do not constitute old growth. (USDA Forest Service 2001a, Volume 2, Chapter 3, part 3.2, p. 131). Failure to protect these small but important stands could degrade potential owl nesting habitat and reduce the likelihood of nesting success (Verner 2003, p. 4; Blakesley and Noon 2003) and eliminate potential denning and resting sites for fisher (Barrett 2004).

Because of their ecological importance, the 2001 Framework protected these small old growth stands from intensive logging. The 2004 Framework's removal of protection for old growth stands of 1 acre or larger was strongly criticized by the Fish and Wildlife Service and by the Forest Service's Washington Office. The Washington Office specifically cited this weakening of the Framework as a factor in its conclusion that the new standards "do not maintain owl habitat and substantially increase the risk that self sustaining owl populations will not be maintained." (Gladen 2003, pp. 10-11). According to the Fish and Wildlife Service, this change may "have significant effects on old forest habitats used by the owl" by allowing "reduction of structural complexity within treated habitats," which "could allow stands of potential owl nesting habitat to be removed." (USDI Fish and Wildlife Service 2003, pp. 4- 5). Therefore, it is critically important that the BE and DEIS contain accurate information and analysis regarding these small old growth stands and how they will fare if the Freeman Project is implemented.

3. The Forest Service Has Not Assessed Whether Owls Have Adequate Amounts of High Quality Habitat in the Assessment Area

The DEIS/BE do not adequately assess the critical factor for owl persistence which is high quality, 5D and 6 habitat, that supporting adult survivorship. The Freeman Project does not assess the relative lack of this habitat in the Project areas and in the HRCAs. The Project Analysis area depiction further does not clarify how much higher quality habitat will remain on Forest Service land -- as opposed to private lands. The BE states that preservation of PACs and SOHAs will ensure that owls have enough quality habitat to survive, but as discussed, this is a recipe for habitat fragmentation across the landscape. Further, the assumption that owls will survive by retention of some quality habitat within owl PACs and SOHAs does not account for the importance of high quality habitat for owl survival within owl home ranges, which has been

found to be the critical factor in maintaining owl populations. (Bond 2005, Tempel 2005a, 2005b).

Owl researchers report that, "the estimate of non-juvenile female survival rate is particularly important because this demographic rate most influences rates of population change (Noon and Biles 1990)." However, further reduction and increased fragmentation of this habitat in the Happy Jack project will likely lead to lowered adult survival rates and increased nearest-neighbor distance. Blakesley and Noon (1999) state that, to the extent that survival rates (not reproduction) are affected by habitat loss and fragmentation, changes in management practices may lead to decreases in survival. Blakesley and Noon (2001) state that, "the most positive step that can be taken to reverse the apparent decline (in spotted owls) is to improve adult survival probabilities." Here, concern for the California spotted owl population exists because the survival rate for breeding adults (the key demographic parameter) was lower than the mean estimate for the listed Northern Spotted Owl (Franklin et al. 2004) (See also Bond 2005; Irwin et al. (2004). (use of a stand by spotted owls positively correlated to number of trees per acre greater than 26 inches diameter.)

Adequate amount of high quality, un-fragmented habitat is critical for owl survival since it increases an owl's ability to avoid predation. The EA notes that barred owls are on the increase. The Plumas-Lassen Administrative Study Monitoring Report states that 20 of the 33 barred owl records have occurred between 2002-2004. In addition, dense, older forests with higher foliage volume play a key role in owl thermo-regulation (North 2000). Studies have shown that as habitat quality decreases, the effects of climatic variation on survival increased (Franklin et al. 2000).

The EA states that only nine acres of nesting habitat will be affected, but assumes no impact from the reduction of almost 200 acres from 5D to 5M habitat. This further reduction in habitat quality and increase in openings will exacerbate these trends.

4. The Forest Service's Presentation of Lee and Irwin 2005 is Contrary to NEPA's Requirement to Present Accurately the Best Available Science

The Freeman DEIS and Biological Evaluation p. 94 claim that Lee and Irwin (2005) *Implications of Forest Thinning on Spotted Owls in Fire-Adapted Forests of the Western United States,* supports the Quincy logging plan and the proposed reductions in suitable habitat. By using the Lee and Irwin (2005) paper the Plumas National Forest replicates the flaws of the paper itself and leads to misinformed and risky conclusions regarding the effects of logging treatments on spotted owls.

First, as shown in the Campaign's appeal of the 2004 Framework revision (cited above) and in Rice (2006) and various cited research papers in the project record, 40% canopy cover is not a significant canopy cover threshold level for effective fuels reduction. Lee and Irwin p. 8 (In Press version), characterize the selection of 40% cc as, "more convenient" and "a useful rule of thumb for distinguishing an upper bound on stands that do not readily carry canopy fires." In fact, the 2001 Framework ROD/FEIS selected 50% canopy as that threshold (USDA, Forest

Service 2001), not as a matter of convenience but rather a balance between reaching fuels objectives and protecting suitable owl habitat preference for 50% canopy cover (2001 Framework FEIS Volume 3, Chapter 4.4, p—73). As demonstrated (Rice 2006) significant (positive) fire behavior change can occur with significantly higher canopy retention levels.

Second, the paper is focused primarily on habitat that supports reproduction. Although this habitat element is important for long-term persistence, it is also critical to consider and manage for habitat that contributes to adult survival. The authors identify relationships between owl reproduction and canopy cover but fail to highlight what should be the primary focus for management, that of avoiding "any management actions which further reduce the survival probabilities for adult females (which) will have disproportionately large and negative effects on population growth rate" (Blakesley et al. 2001). In other words, habitat that supports adult survival, not reproduction, is the critical factor for land managers to address.

As stated by leading owl scientists working on the nearby Lassen National Forest, "[G]iven the current trend in California spotted owl populations, the most positive step that can be taken to reverse the apparent decline is to identify, and implement, those actions that will lead to increases in adult survival probabilities. Owl studies to date suggest that this will occur with increased retention and recruitment of large trees and retention of closed-canopy conditions throughout the Sierra Nevada landscape." (Ibid)

Lee and Irwin (2005) report that there is no evidence of an increasing benefit (of reproduction) of increased amounts of higher canopy cover. Although they do state that the reproductive success does increase with increasing levels of canopy cover, because there are higher numbers of nesting pairs within the denser sites, not because of greater reproduction of those nesting pairs.

Lee and Irwin attempt to make a case for factors other than habitat alteration as the major driver of owl trends. Factors such as weather effects, exceptional reproductive years, and fire certainly play an important role in owl population trends but there is little evidence in Lee and Irwin that suggests higher canopy cover and the increased retention of large trees on the Plumas National Forest, in the Freeman project and elsewhere, would not lower risks to adult survival and therefore increase the likelihood of population persistence.

Although Franklin et al. (2000) is often cited out of context of the actual research, (Northern Spotted owls, in wood rat dominated prey scenarios, with researched focused upon owl reproduction success), he has reported that it would be a mistake to manage only for habitat values that support reproduction. Franklin et al. (2000) have found an interaction between habitat and climate factors suggesting that variation in fecundity may be less in habitats of higher quality. Franklin states, "[A]s habitat quality decreases, the effects of climatic variation on survival increased," and that the "excessive loss of key landscape habitat components, such as mature and old-growth forest, can exacerbate the effects of unfavorable climate conditions on survival," (see *Ecological Monographs* 2000 p. 581-583).

The evidence of declining owl trend (above) and recent research on the Almanor Ranger District suggests possible mitigation of treatment effects will occur by protecting larger trees >20" dbh and maintaining higher canopy cover (>70%) in the treatment units would not increase probabilities for adult survival and reproduction in the Freeman project. In Blakesley (2005), in an analysis representing 2 spatial scales, a (814 ha/2000ac) core area and a (203 ha/500ac) nest area, site occupancy was positively associated with the amount of nest area dominated by large trees and high canopy cover (>70%) and was negatively associated with non-habitat. Reproductive output was negatively related to elevation and lower with increasing amounts of the nest area dominated with small trees or unforested. It is precisely this reliance on lower quality habitat in the Freeman Project that has the greatest potential to threaten long-term persistence on owls in the project area and in the QLG Pilot area in general.

The CASPO Technical Report (1992, p184) discussed the issue of risk to adult survival and relationships to habitat, specifically, that "low fecundity precludes rapid recovery from a population decline." The CASPO owl team warned that, "[A]ny management action that lowers adult survival rate, particularly when coupled with a reduction in population size, markedly increases the likelihood of local extinctions." (Ibid). The Freeman project is headed down the same risky path as seen in various projects elsewhere on the Plumas and Lassen National Forests, where management decisions continue to harvest to the CASPO lower minimum retention levels (for tree size and canopy cover) and bank on lower quality CWRH habitat types to support spotted owl persistence. The specific need examination of habitat quality (within lower quality strata) is precisely the issue raised by the Science Consistency Review Team (p. 8):

"The California Wildlife Habitat Relationships (CWHR) habitat types (dbh and canopy cover) were used to evaluate the potential effects of the various plan alternatives. We realize that these categories, while standard practice today, represent rough breakdown of appropriate size classes of habitat. **Some important distinctions within some size classes of habitat are lost in the gross categorization of habitats.**

Site quality in this area appears to be relatively mediocre compared with some other locations in the northern Sierra. Whatever large tree structure may have once existed in this area is largely gone now. Presumably part of the long term objectives of silviculture in this area is to restore the large tree structure of habitat at an appropriate level (i.e. what the site can support without heroic management efforts). If this is true the project plan should more explicitly state this and be more conscious of what silvicultural practices and prescriptions are necessary to achieve this.

Evaluating Risk and Uncertainty with the Data that are Available. One possible way to evaluate risk associated with the uncertainty of habitat typing accuracy and potential impacts to California spotted owls (CSOs), northern goshawks, marten, and fisher is to **evaluate only size class 5D or 5D and 4D or 5D and 5M as being suitable habitat**. This could be done at the project scale and at a PAC by PAC level (for CSO and goshawk).

As with the CSO and northern goshawk, the DEIS perhaps overestimates the amount of potential fisher and marten habitat by including all CWHR 4M and 5M stands. The appropriateness of all 4M and 5M stands should be discussed more.

The alarming trend is noted in the Freeman DEIS, that acknowledgement of uncertainty, stated over and over, appears to have become the standard mitigation of risk to spotted owls in the project area. This approach, as opposed to the actually addressing the recommendations by

the SCR Team such as, using more cautious suitable habitat definitions, actually examining the quality of the lower CWRH types, and avoiding the risks associated with the "gross categorization of habitats" in the project. Since the Freeman Project includes significant levels of "mediocre site quality" it is imperative that the Forest Service take a "hard look" at the site quality issue and not hide behind timber strata labels to support their conclusions.

5. The DEIS Fails to Analyze Impacts to Individual Owl HRCAs and Home Ranges.

As described earlier, California spotted owl home range core areas (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 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).

The Freeman Project does not provide any discussion of how HCRAs or owl home ranges function as a necessary habitat complement to the PACs in the project area. This lapse is critical, however, due to the importance of this habitat to owl survival and the owl's precarious viability in this Forest. (See Blakesley 2004; Verner 2003; Blakesley and Noon 2003; Noon 2004; Peery 2004; Bond 2003; Franklin et al. 2003.)

The Sierra Nevada 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 survival and reproductive success (Bart 1995; USDA Forest Service 2001a, Volume 3, Chapter 3, part 4.4, pp. 92-93). The FSEIS recognizes that "California spotted owl occurrence and productivity appears to be significantly correlated with canopy cover composition within own home ranges." (FSEIS, p. 270). Yet the Freeman Project would allow logging throughout owl home range core areas in the project and analysis area, which will "result in the removal of habitat attributes that provide quality nesting and foraging habitat." (FSEIS, p. 270). *See also* DEIS, pp. 226-229.

To determine effects on owls, the Forest Service must consider how the potential elimination of certain PACs due to loss of HRCA habitat – as suggested in the DEIS (p. 227) - will affect owl pairs and the resulting impact on the broader owl population. As owl biologist Zach Peery explains: "For example, will the Proposed Action result in loss of occupied owl nest sites and an increase in nearest-neighbor distance? Will the degradation of owl habitat within areas of concern interfere with owl dispersal, potentially isolating subpopulations and reducing the owl's current distribution? Such landscape-scale questions need to be addressed if the effect of the Proposed Action on Spotted Owl viability is to be assessed in a rigorous manner." (Peery

2004, p. 7). Without analyzing the landscape level effects of habitat loss in individual HRCAs, it is impossible to assess accurately the project's potential impacts on the owls utilizing the HRCAs. As noted by Bond, "This population is already showing strong signs of decline, and further loss of habitat is likely to exacerbate the decline. As noted before, PACs and SOHAs are of insufficient size to adequately meet the needs of territorial adult owls, as well as other important segments of the owl population, such as dispersing juveniles and migrating and "floater" adults." (Bond 2006).

The DEIS also does not analyze impacts to owls as the scale of the broader owl home range areas. This is a particular concern because many owl home ranges in the project area have had marginal habitat quality. For example, in the QLG FEIS process, the Forest Service analyzed the percentage of suitable habitat within each owl home range, compared to a desired goal of 50 percent suitable habitat. (USDA Forest Service 1999a, pp. 76-82). The Forest Service then estimated the number of owl home ranges that would have less than 50 percent suitable habitat after project implementation as part of the assessment of likely impacts on the owl population.

Here, as discussed above, the Freeman DEIS and BE acknowledge the poor habitat quality for sensitive forest species between owl PACs and SOHAs, yet do not provide adequate information as to overall quality of home range and HRCA habitat for owls existing in the Wildlife Analysis Area.

6. DEIS Fails to Analyze the Significant Impacts to Spotted Owls by Increasing the Presence of Spotted Owl Predators and Reducing Owl Prey Base

The Freeman project does not adequately address the potential for significant impacts from creating a mosaic of forest openings to which barred owls, a spotted owl predator, are better adapted. Barred owls have been detected in the area and the potential for barred owls to become established and compete with California spotted owls within the Freeman project area is a potentially significant cumulative effect, which is not meaningfully discussed in the planning documents.

Concern for the California spotted owl population on the northern Sierra Nevada forests in interaction with barred owls is an important management issue. Competitive exclusion, increased aggression, predation, and hybridization between barred and spotted owls raise serious concerns for spotted owl survival in the Sierra Nevada. Barred owls have reached the Eldorado National Forest in the central Sierra Nevada in 2003, and the Sequoia National Forest in 2004 (G. Steger, pers. comm.). Barred owls have the potential to invade as far south as 38 N latitude (Peterson and Robins 2003). The authors recognize the effects of habitat fragmentation related to habitat invasion of Barred owl and also recommend more direct measures for combating the species invasion (*Id.* p. 1164).

Kelly et al. (2002), found dramatically increasing numbers of barred owls in her study area in western Oregon. She identified 706 barred Owl territories in Oregon between 1974 and

1998, with an average of 60 new territories found each year between 1989 and 1998. Kelly et al. results suggest, "that land managers and regulatory agencies should regard barred owls as a threat to spotted owls, particularly if barred owls continue to increase in numbers as they have during the past 25 years," (Kelly et al. p.45)

The Forest Service has confirmed increased sightings of barred owl recorded on the Plumas National Forest since 1992 (Feather River Ranger District, 2003). An increase in barred owls due to forest fragmentation in combination with reduced habitat could cumulatively reduced spotted owl numbers in the area. The reduction of spotted owl numbers in the area is a significant impact. Increased forest fragmentation in the Freeman Project is likely to facilitate the invasion of barred owls and lead to potentially significant impacts to spotted owls in the planning area and beyond. Since the evidence demonstrates the potential for significant impacts, which may place the local spotted owl population at risk, from this invasive species, further analysis is required for this project. *See also* Bond 2006 ("The role of fragmentation in facilitation barred owl movement into occupied spotted owl has not been adequately disclosed in the Freeman DEIS/BE.")

The Freeman Project also fails to analyze the potentially significant impacts of increasing predation by Great Horned Owls. The DEIS does not acknowledge that group selection may allow for predation on spotted owls by great horned owls, which are known to occupy the open habitat. Edges created by groups within suitable owl habitat may reduce the use of foraging habitat by spotted owls and increase use by great horned owls (an effective competitor and predator of the spotted owl.

The Freeman Project also fails to analyze adequately impacts to spotted owls by decreasing prey species such as flying squirrel populations. The DEIS and BE does not acknowledge the impacts of group selection and large scale fuel reduction on flying squirrels, which are spotted owls preferred prey based in the mixed conifer and red-fir forest habitat above 4,000 feet. (Verner 1992, p.69.) Flying squirrels would likely be absent within the group selection openings and thus these small openings within the forest may be marginal for foraging spotted owls due to isolation from the forest interior. *See* USDI Fish and Wildlife Service 1999, p. 10 ("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.") *See also* Bond 2006 (DEIS fails to provide a real analysis concerning the habitat requirements for key prey species for the California spotted owl (woodrats and flying squirrels) and how they will be impacted by the Preferred Alternative.)

7. The DEIS Fails to Analyze the Inadequacy of Present Habitat in the Project and Wildlife Analysis Area to Support Martin and Fisher

The absence of the marten and fisher within the Freeman planning area should raise a red flag for the Forest Service that existing habitat conditions – due in part of reduction of habitat through past logging practices – is inadequate to support the continued survival of these species.

Yet the Project documents do not analyze how the current habitat conditions are inadequate to maintain these species nor how further reduction in such habitat will not jeopardize the existence of these species in the Plumas National Forest and in the Northern Sierra. *See* Kucera 2006 (marten's absence "raises a broader concern regarding the marten's viability and distribution in the surrounding area and in the northern Sierra Nevada more generally.") As noted by Kucera:

> I believe that the current absence of marten in the planning area, despite its historical presence, is likely due in large part to the inadequacy of the present carnivore network in preserving sufficient amounts of connected, high quality habitat for this species. Given that there is no evidence that the existence of the forest carnivore network has provided adequate protection for marten habitat within the Freeman project, any implication that the network will in some way provide habitat connectivity in the future is unfounded.

The DEIS (p. 256) attempts to address this issue for the fisher at least by stating that because there are only "26,882 acres of 4M, 4D, 5M, [and] 5D habitats in the wildlife analysis area …the Freeman project area may not support habitat attributes needed to contribute to the potential for recovery of the species in this area of the Plumas National Forest." However, this explanation does not satisfy NEPA's hard look requirement since it does not consider 1) adjacent contiguous habitat outside the WAA that could provide the needed habitat; 2) that elsewhere the DEIS states that adequate habitat will be available; and 3) that less than 31,600 acres could provide adequate habitat were it of higher quality rather than in the severely degraded condition presented in the DEIS. *See* Kucera (2006), who points out:

> The conclusion that having "only" 85% of an estimated acreage requirement in an arbitrarily determined area means that "the Freeman project area may not support habitat attributes needed to contribute to the potential for recovery of the species in this area of the Plumas National Forest" appears hasty and conveniently crafted to support the preferred alternative. Moreover, for the same reasons set forth above with respect to impacts on marten, the planning documents fail to include the information and analysis that would be necessary for a careful and thorough review of likely impacts on fisher, including the amount and distribution of habitat that will be lost and cumulative impacts of the Freeman project and other present and planned projects in the area.

Further, the marten is highly sensitive to forest fragmentation and does not appear to tolerate habitat characterized by 25 percent or greater forest openings. However, the DEIS and BE fail to analyze the extent to which the Freeman Project will create additional forest openings, potentially exceeding the marten's threshold. No information is given regarding the percentage of open habitat in areas that would be assumed to function as marten home range were martens again to occupy this region. As noted by Kucera (2006):

> The DEIS (p. 253) states that the proposed action will potentially contribute to cumulative effects in the carnivore network habitat but would not increase any "large scale, high contrast fragmentation above existing levels." I do not see any basis for this

statement. The proposed fuel treatments, thinning and group selection will reduce available habitat and decrease the size of remaining contiguous suitable habitat blocks. I believe the proposed action risks fragmenting marten habitat even more than already exists in this area. However, without more information such as how these habitat blocks function across the landscape, it is impossible to evaluate this important aspect of marten ecology

Here, the percentage of openings is very close to the marten's habitat threshold. Given that group selection treatments are concentrated in portions of the project area, and that barren areas and other existing openings may be similarly concentrated, there is a good possibility that the percentage of openings will exceed 25 percent in portions of the project area.

8. The Analysis of Cumulative Impacts is Inadequate.

In their scoping comments, the Campaign specifically requested a detailed cumulative effects analysis that examined the impacts of past, present, and planned logging on sensitive species, taking into account both public and private lands. The DEIS and BE include some discussion of potential cumulative impacts. However, the analysis is insufficient to adequately inform the public and decision maker regarding the scope and magnitude of likely cumulative effects.

NEPA requires the Forest Service to assess the cumulative impacts of a proposed project in light of that project's interaction with the effects of past, current, and reasonably foreseeable future projects. *See* 40 C.F.R. " 1508.7, 1508.25; 1508.27(b)(7). *Native Ecosystems Council v. Dombeck*, 304 F.3d 886, 894-895 (9th Cir. 2002); *Neighbors of Cuddy Mountain v. United States Forest Serv*., 137 F.3d 1372, 1379-80 (9th Cir. 1998); *Muckleshoot Indian Tribe v. United States Forest Serv*., 177 F.3d 800, 809-10 (9th Cir. 1999.) Cumulative impact "is the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions." 40 C.F.R. " 1508.7 Cumulative impacts "can result from individually minor but collectively significant actions taking place over a period of time." Id.

The Ninth Circuit has recently clarified NEPA's cumulative effects analysis requirement as applied to timber sales proposed by the Forest Service. *The Lands Council v. Powell*, 379 F.3d 738 (9th Cir. 2004). As the Ninth Circuit held in overturning a timber sale EIS, "for the public and agency personnel to adequately evaluate the cumulative effects of past timber harvests, the Final Environmental Impact Statement should have provided adequate data of the time, type, place, and scale of past timber harvests and should have explained in sufficient detail how different project plans and harvest methods affected the environment." Here, as in The Lands Council, the DEIS "generally describes the past timber harvests … and asserts that timber harvests have contributed to the environmental problems in the Project area." But, as the Ninth Circuit ruled, such a general discussion is not adequate to satisfy NEPA's cumulative effects requirement.

The Freeman Project DEIS and BE do not provide an adequate discussion of the cumulative impacts and location of past, present, and planned projects in the vicinity of Freeman that are likely to affect owl or forest carnivore habitat. As a result, the BE does not adequately disclose the extent to which such other projects may cumulatively affect the distribution and connectivity of habitat for these species. It is likely that logging adjacent to the Freeman Project area will exacerbate the north-south habitat connectivity problem identified in the BE.

Similarly, although the DEIS and BE indicate the amount of marten habitat that may be degraded in other projects, it does not disclose the extent to which these projects will create additional forest openings, thereby potentially exceeding the marten's habitat threshold. As stated by Kucera, the reduction in overall quality marten habitat is "particularly problematic given that the marten has not been detected in the project area in recent years, thereby raising the likelihood that this project may 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." (Kucera 2006). However, the Freeman Project does not conduct any meaningful cumulative impact assessment regarding these potential impacts.

With respect to the California spotted owl, the DEIS (p. 234, Table 3.49) simply lists impacts from other projects on owl nesting habitat, but provides no analysis for how this and other projects may affect owl habitat and connectivity. Instead the DEIS simply states that it is "uncertain" what the influence of these reductions would be on owl activity and occupancy in the Wildlife Analysis Area. This analysis does not present information on the loss of 1) home range suitable habitat; 2) the spatial relationships between habitat occurring in the Wildlife Analysis area; and 3) how past, present and future incremental impacts may be contributing to an overall significant impact by reducing the quality and quantify of suitable habitat across the landscape. Given the number of projects being proposed by the Plumas National Forest, this lack of overall analysis is problematic. *See* Table 2 below:

Table 2. Summary information for seven timber EAs and EISs that cover more than 1,000 acres and that have decision documents signed or for which scoping has been initiated since the 2004 Record of Decision of the SNFPA.

Project	Total Area Treated (ac)	Group Selection (ac)	DFPZ Thinning (ac)	Individual Tree Selection (ac)	Status of Project
Freeman DFPZ/GS	4,278	288	3,990		Comment period closed 1/10/05
Happy Jack DFPZ/GS	6,256	91	2,866	2,262	Decision to Implement 6/1/05
Mabie DFPZ	7,185		7,185		Decision to Implement in 2004
Basin Group Selection	1,750	1,750			Decision to Implement 8/30/04
Watdog DFPZ/GS	4,260	260	4,000		DEIS Issued 6/24/05
Empire Project	11,900	1,300	6,600	4,000	DEIS Issued 5/18/05
Meadow Valley DFPZ/GS	6,435	735	5,700		Decision to Implement 4/16/04

TOTAL	**42,064**	**4,424**	**30,341**	**6,262**

Similarly, with respect to fisher habitat, the DEIS simply cites to the existing forest carnivore network as a basis for concluding that forest carnivores are being protected, a reliance that is entirely unjustified given that both marten and fisher are presently absent from the Wildlife Analysis Area. *See* Kucera 2006 (questioning how habitat can be rendered unsuitable, without similar significant impacts on the habitat "network" that would be required for mesocarnivores to recover and regain viability in this region.)

In addition, the Forest Service is not conducting a meaningful assessment of the Freeman project in combination with other projects within this region containing Areas of Concern within or adjacent to the Plumas National Forest. The projects set forth in Table 2 above are located directly between Areas of Concern identified in the CASPO Report (Verner et al. 1992). Concern for these areas includes known low densities of CSO, fragmented habitat, and impediments to north-south travel for owls and forest carnivores. (*Id*., pp. 45, 48). The timing and scale of habitat degradation proposed in the projects listed in Table 2 could well lead to an expansion of existing AOCs 2 and 3 that are to the north and south of this area or the creation of a new AOC. This potential cumulative effect is not considered in the DEIS.

The presence of AOCs and potentially limited amounts of regional habitat demonstrate that the Forest Service needs to conduct a cumulative impact assessment at a larger scale. *See Native Ecosystems Council, supra*, 304 F.3d at 897 ("Because the amendments are reasonably foreseeable and may have cumulative impacts within the Gallatin National Forest, the Forest Service has a duty to consider them in its analysis of impacts within the Darroch-Eagle EA."); *Kern v. U.S. Bureau of Land Management*, 284 F. 3d 1062, 1078-1079 (9th Cir. 2002) (holding that cumulative impact analysis must include "reasonably foreseeable future actions" outside the geographic area but within the range of the Port Orford Cedar, the affected resource at issue); 40 C.F.R. ' 1508.7.

In addition to the particular sensitivity of this region containing AOCs and limited quality habitat, the life history of sensitive species such as the spotted owl, fisher and marten indicates the need for a larger Wildlife Analysis Area. The Freeman Wildlife Analysis Area appears to be drawn around existing PACs and HRCAs, but does not consider owl or, as discussed more fully below, dispersal corridors necessary for long term population viability. As a result, the DEIS appears to eliminate arbitrarily potential landscape level impacts of other OLG projects just outside the assessment area. For example, the DEIS (p. 150) states that the Freeman and Happy Jack Wildlife Analysis Areas overlap, but that the project impacts of each were not considered by each other. Given the life histories of these species, this approach is contrary to NEPA.

The Sierra Nevada Framework found that the California spotted owl utilizes and selects habitat at three different spatial scales: nest, roost, or foraging stand; home range or core area; and landscape. (USDA Forest Service 2001a, Volume 3, Chapter 3, part 4.4, p. 72. See also id. at 82 ("Conservation measures must consider habitat distribution, abundance, and quality at the

landscape, home range, and stand-level scales.") The Sierra Nevada Framework also found that timber harvesting could have significant impacts only detectable at the home range scale:

> Reproduction would drop below replacement rate at some threshold percentage of suitable habitat between 30 and 50 percent in home ranges and in the larger landscape in general. Recently completed analysis in the Sierra National Forest demographic study area concludes that canopy cover composition within owl home ranges is significantly correlated with owl occurrence and productivity .... Productivity was positively correlated with the proportion of the analysis area having greater than 50% canopy cover and negatively correlated with the proportion having less than 50% canopy cover. The values ranged from 75% of the smallest analysis area (178 acres) with greater than 50% canopy cover to 60% of the largest analysis area (1,062 acres) having greater than 50% canopy cover.

(USDA Forest Service, 2001a, Chap. 3, part 4.4, p. 76.)

At the landscape scale, suitable habitat must be distributed across the Sierra Nevada in a manner that is consistent with spotted owl life history. The spatial distribution of owl home ranges was an important consideration in the development of both the conservation strategy for the northern Spotted Owl (Thomas et al. 1990) and the interim guidelines for the California Spotted Owl (Verner et al. 1992).

Scientifically valid cumulative effects analysis must be conducted on the potential impacts to at-risk species in terms of all their behavioral life cycle functions such as foraging, nesting, dispersal, migration, not limiting the analysis to an arbitrary line on a map but rather addressing the actual movements of, and stressors on, the local and regional owl population. A key aspect is owl dispersal. Conservation plans for both the northern and California spotted owls considered it important that enough home ranges be located in close proximity so that dispersing juveniles had a high probability of locating vacant territories and recruiting into the population.

The Framework states the importance of assessing impacts to the owl at a regional landscape level to ensure successful dispersal:

> At the landscape scale, the issue is to provide for sufficient amounts and distribution of high quality habitat to facilitate natal and breeding dispersal among territories and to maintain California spotted owls well-distributed throughout their historic range in the Sierra Nevada. For this purpose, protecting occupied, as well as suitable but unoccupied habitat, over the long term is important at this scale. A species with obligate dispersal and experiencing habitat limitation would be expected to show a pattern of less than full occupancy of habitat due to the uncertainty of the search process and the survival costs associated with searching for low-density habitat. Conservation efforts should therefore consider not only occupied habitat, but also suitable unoccupied habitats, in developing conservation strategies for species for which dispersal may function as a primary limiting factor.

(USDA Forest Service, 2001a, Chap. 3, part 4.4, p. 82.) Owls may disperse across large areas encompassing many watersheds and that such dispersal can be expected to occur "in random directions, with no relation between dispersal direction and the geographic orientation of drainages or ridges." (See e.g., Verner 1992, p. 66.) The FWS' recent 90 day finding on the owl indicates that the median dispersal distance of 42 juvenile owls within the HFQLG area was 14 miles for males and 16 miles for females (Federal Register 2005; Bond 2006). *See also* Verner 1992, p. 66 (Technical Report describes dispersing juvenile owls ranging from 2.1 to 68 miles from natal area).

The success of such dispersal may depend on the quality of matrix habitat between owl home ranges. All of these factors reinforce the need to maintain habitat quality on matrix lands outside of designated HRCAs. (Bond 2006). . For example spotted owls on the Lassen National Forest have a breeding dispersal distance of (median 7 km, range = 1-33 km or 19.8 miles). Laymon (1988) found straight line natal dispersal distances of spotted owls on the Eldorado NF of 8.8 and 11.5 miles from their natal sites. One of the Eldorado owls dispersed all the way south to Columbia, California, a distance of approximately 75 miles (see CASPO Technical Report p.66). Tibstra (1999) shows natal dispersal mean distances of 9.9 miles on the Sierra National Forest. Likewise, Laymon (1988) found 8 of 10 owls with significant elevational displacement between summer and winter habitats of 10-36 miles (n=20 miles) CASPO Technical Report (p.64). Similar to migrating deer, although not moving in herds, spotted owls move significant distances beyond nesting areas and are impacted by logging projects, roads, urbanization, fires, barred owls, other predators, disease and parasites, in the project and outside of it.

The Technical Report describes the importance of dispersal to spotted owl viability:

> Successful dispersal is essential for population viability. Without it, a population will slowly decline to extinction, because deceased individuals in the breeding population will not be replaced by recruits from dispersing juveniles or adults that have been displaced or have not yet secured a territory. ...The distance between adjacent pairs or groups of breeding owls should be such that dispersal of juveniles can replace losses (deaths or emigrations) among existing pairs and provide for colonization of suitable, unoccupied habitats.

(Verner, 1992, p. 66.) The federal recognition regarding the importance of avoiding habitat fragmentation was recognized by the QLG planners, who required that "habitat connectivity would be maintained to allow movement of old forest ...species between areas of suitable habitat. (QLG ROD, p. 9.) In fact, the QLG planners specifically noted the "risk of habitat fragmentation and isolation" from "the changes in landscape patterns and habitat connectivity" and changes to habitat conditions for forest interior species (such as the California spotted owl). (QLG ROD, App. AA, p. 13.)

In addition, the Administrative Study, designed to assess impacts of the QLG Pilot Project, acknowledges the necessity of assessing impacts from forest management at the landscape level.

> Landscape fuels treatment strategies are implemented at large spatial scales and will be the dominant management activity affecting CSOs and the forest landscape. Resulting changes in vegetation structure and composition from treatments may affect [California spotted owls] and their habitat at multiple spatial and temporal scales. Key uncertainties regard 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....It is necessary that research address management effects on CSOs at the appropriate scales at which management is being conducted. Proposed landscape treatments may have effects at either, or both, the individual territory or owl site scale as expressed through change in occupancy, diet, use of vegetation patches, survival or reproduction, or at the population level as expressed through change in the density or spatial distribution of territorial breeding pairs at the landscape-scale. The individual site scale and population level perspectives are complementary in that the population level provides context for interpreting change at the site scale. Most importantly, both perspectives are required by managers concerned with managing for high habitat quality sites, as well as, well-distributed, viable populations across landscapes while implementing management strategies to deal with large-scale fire and fuels issues.

(USDA Forest Service 2003b.) The failure to obtain and analyze this important information violates the Forest Service's duty under NEPA to gather missing information or to analyze likely environmental consequences if the data cannot reasonably be obtained. 40 CFR 1502.22.

The same inadequacies apply to the marten, as discussed above, due to the Forest Service's failure to analyze the adequacy of the current forest carnivore network in allowing these species to disperse from their current locations in the Plumas National Forest.

The Freeman Project DEIS (pp. 234-235) avoids the need a meaningful cumulative impact analysis, including the use of a larger Wildlife Analysis Area, by tiering to the 1999 QLG FEIS and 2004 Framework FEIS. As discussed, however, the Framework's analysis is incomplete and uncertain, and, moreover, cites the need for further regional cumulative impact assessment at the project level. Further, the QLG EIS also acknowledges the potential for cumulative impacts from implementation of logging projects under the QLG plan, stating that "[f]urther cumulative effects analysis on wildlife habitat will be conducted at the project level. *See* QLG App. AA, 12-13. (Bond 2006). In sum, the cumulative effects analysis in the Freeman Project DEIS, with respect to past, present, and reasonably foreseeable future logging, fails to comply with NEPA.

9. The Forest Service has Failed to Provide an Accurate Analysis of What Treatments are Required to Meet Fuel Reduction Objectives

The DEIS and Fire and Fuels Report (FFR) do not attempt to justify the Forest Service's assumption that the logging of larger, co-dominant trees (up to 30" dbh) is necessary to avoid stand replacing fires. As stated by the Northern District Court in its recent decision in Sierra Club v. Bosworth, USND Case No. 05-00397, regarding the tradeoff between fuel reduction benefits and impacts on sensitive wildlife:

> There can be little dispute that fire poses a threat to the fisher and must be considered in an environmental analysis. However, the proper question given all the available science is not only whether a project protects the Forest from catastrophic fire, but also whether it does so in a manner that has the least impact on sensitive species. For example, a reasoned analysis likely would revisit the original canopy cover and tree diameter restrictions to determine--in light of all the new information--whether restrictions set at other levels would still protect the forest from fire while better protecting important habitat features.

Opinion, p. 14:9-17. (emphasis added.)

The Forest Service's determination to log trees above 20" dbh ignores that resiliency to a wildfire means a greater ability to withstand a fire and that larger trees have a greater ability to withstand fire. (Rice 2006) The adaptations of co-dominant pines are many, most notably a greater bark thickness and higher height of live foliage above the forest floor. In sum, retaining the largest trees in the stand offers the greatest likelihood of increasing overall stand resiliency. The Forest Service's failure to follow this basic proposition and to instead rely on a flawed methodology and analysis means it has failed to apply a hard look to its fuel reduction analysis, failed to use the best available science, failed to consider alternatives in a non-arbitrary manner and failed to consider the environmental impacts of its decision-making process, all contrary to NEPA.

The DEIS and FFR and DEIS reiterate the goal of fire risk reduction, without ever setting forth measurable standards that can be evaluated. Here, the stated goals of the project are to implement fuel reduction in the Wildland urban interface, reduce potential size and intensity of wildfires, provide fire suppression personnel safe locations for taking action against wildfires, and achieve all-aged, multi-story fire resilient forest. None of these standards contain measurable goals. In contrast, the 2001 Sierra Nevada Forest Framework has specific standards for fire hazard reduction. For example, under high fire weather conditions (90%tile) fire behavior is to be treated so that flame length at the head of the fire is less than 4 ft, rate of fire spread at head is reduced by 50% of pre-treatment levels, and under these same weather conditions, a chance of crown fire initiation of less than 20% is present. (See Rice 2006). In the absence of quantifiable standards, the public has no ability to evaluate by the public to determine whether the Project has chosen an appropriate alternative, in violation of NEPA.

To the extent, the DEIS sets forth measurable goals of success, they include 1) reducing surface fuels to manageable levels – i.e., corresponding to Fuel Models 8 & 9; 2) thinning to

increase the height to live crown to at least 12 feet; and 3) avoiding the possibility of a spreading crown fire. *See* FFA, Table 5; Rice 2006. However, the DEIS and FFR do not acknowledge that surface fuel treatment can achieve the first goal and that the third goal is also met since existing canopy covers are already too sparse to allow for a spreading crown fire under 90th percentile conditions. *See* Rice 2006. As to the second goal, the Forest Service does not provide any information as to the maximum diameter to which trees would need to be thinned to meet the Forest Service's criteria for success on this issue. As discussed in Rice 2006, however, this dbh is likely considerably lower than 20" dbh; indeed, many other projects have met this and the other success criteria simply by using prescribed fire. *See* Rice 2006, (citing Stephens and Moghaddas 2005a). Since the Forest Service has not presented this information, however, it is impossible for the public to gauge the necessity of logging larger co-dominant trees to achieve fuel objectives. In addition, as noted by Rice 2006, the DEIS notes that only 9% of the Freeman project area contains trees with average size above 23" dbh and that the vast majority of trees are under 20" dbh. Thus, the DEIS does not provide support for the need to log this size class tree in order to meet fuel objectives.

As noted by Rice (2006), even if reducing crown bulk density were the central objective, this could be achieved by taking trees sized 20 inches and under since crown fuel load for average maximum stacking density does not change much with diameter. The crown fuel load (ton/acre) of a stand with an average 20-inch diameter ponderosa pine is not much different from a stand with an average of 4-inch diameter. Further, raising crown base height, another key factor in crown fire initiation, is more effectively done by removing smaller trees as larger trees usually have the highest crown base height of the stand. Big trees have the highest height to live crown levels, so removing those will not raise the height to live crown levels. Because the biggest trees are most fire resistant, removing big trees will not help make forest fire resilient. Agee and Skinner (2005) quote that one the principles of a fire resilient forest is to maintain the largest trees. (Rice 2006).

10. The Forest Service Does Not Present Information Why Harvesting Co-Dominant Trees between 20-30" DBH is Necessary to Meet Forest Health Objectives

The Forest Service does not provide any explanation why it is necessary to log trees above 20" to improve forest health. The DEIS (pp. 32-33) states that the Freeman Project has too many acres in size classes 3 & 4 and too few in size classes 5 & 6. (*See* Table 1.1.) The Campaign agrees with this assessment, but does not agree that the remedy to this situation is to log trees that are either already in or inches away from the desired size classes. Further, the Forest Service provides no justification from a health perspective for logging the relatively small percentage of larger (<20" dbh) conifers in order to improve forest health. Without any discussion of this topic, the public has no ability to gauge the need for this level of harvest to meet these objectives. Further, experts in the field have noted that forest health and stand density can be easily managed successfully by thinning smaller conifers to reduce overstalking. (The Campaign submits a Declaration of Robert Heald on the Kings River Project in support of this

point. This Declaration has general applicability to the issue of forest thinning to improve stand health and therefore should be considered by the Forest Service.)

11. The Forest Service Has Not Accurately Presented the Risks to Other Wildlife from this Project

The Freeman DEIS/MIS Report claim that the thinning and fuels reduction treatments will benefit Mule Deer by allowing for increases of brush species as a result of treatments (MIS report p. 12). This is a misleading statement based upon the stated objects in the DFPZs and GS units in Freeman and throughout the OLG project area. The objective of the proposed treatments is to maintain these areas at low levels of brush and other fuels to keep the fire hazard low and to protect firefighters and to keep the competing brush species reduced to prevent competition with conifers in the GS units. The conflicting (and primary) purpose of the QLG treatments will not benefit Mule Deer forage.

12. The DEIS fails to evaluate the present condition of the streams in the assessment area and the effects that the alternatives will have on stream condition and function.

The cumulative watershed effects analysis in the DEIS and CWEA report disclose several stream courses that are approaching the Threshold of Concern (TOC) DEIS p. 342. The CVRWQCB Water Quality Objectives limit of no more than a 20% increase above baseline current condition.

What the CWEA description fails to point out is the error coefficients for the ERA modeling process and range of error associated with these ERA calculations.
The error range in the ERA model would likely extend several of the possible calculations into the violation range for the CVRWQCB.

The Freeman watershed analysis fails to disclose the error range for its watershed effects model and leaves substantial questions unanswered regarding the impacts of the proposed logging in several watersheds approaching high TOC. The potential for significant impacts and the absence of a discussion of the uncertainty around the ERA calculations requires the Forest Service prepare an EIS to answer this concern.

The DEIS fails to examine RHCA habitat quality for example, where alternatives that require 50% canopy cover and disallow the removal of trees greater than 20" dbh. could result in greater benefit to the habitat quality in the RHCAs. Retaining more canopy cover can results in a more favorable microclimate – the humidity remains higher and the shade prevents increases in temperature to the soils and surrounding environment. The retention of trees greater than 20" dbh provides a greater recruitment pool for large woody debris.

The absence of a site-specific effects analysis also limits the ability to identify mitigation measures that could benefit the riparian zone. For example, in cases where large wood is of low

abundance or quality, large live trees could be felled and left in the RHCAs to increase the abundance of this important habitat element.

Thus, the DEIS does not provide the specific information on the effects of the alternatives on stream condition that is required for the public to meaningfully evaluate the Preferred Alternative. This violates the intent of NEPA.

B. The Forest Service Failed to Consider Alternatives in Compliance with NEPA.

The DEIS for this Project must suggest and analyze the environmental impact of alternatives to the Preferred Alternative that can meet the project purpose . 42 U.S.C. " 4332(C) & (E); 40 C.F.R. 1508.9(b.) *See Native Ecosystems Council v. Dombeck*, 304 F.3d 886, 895-896 (9th Cir. 2002.) *Muckleshoot Indian Tribe v. United States Forest Serv*., 177 F.3d 800, 810 (9th Cir. 1999) ("Forest Service failed to consider an adequate range of alternatives. The EIS considered only a no action alternative along with two virtually identical alternatives.")

The Campaign reiterates its prior comments that the environmental review document must assess an alternative that implements the 2001 ROD standards to determine whether project objectives can be met with less significant impacts on wildlife. In particular, the Forest Service must consider an alternative that limits logging of trees to under 20" dbh, as consistent with the 2001 ROD. The Forest Service's alternatives analysis establishes a false choice between 3 similar "action" alternatives and no treatment whatsoever. This is not a reasonable approach under NEPA.

In response, the DEIS (p. 82) states that the Forest Service has already determined that this alternative does not meet its purposes and needs in prior Forest Service projects Happy Jack, Empire and Watdog and that there "was no difference in effects to watershed, wildlife or fuels objectives." There are numerous problems with this analysis.

First, the Forest Service cannot simply refer to other projects' alternatives analysis and assume that this closes the door on the Service's NEPA responsibilities to consider a reasonable range of alternatives for individual projects. The Forest Service provides no information that the factual circumstances of the Freeman Project and the other cited projects are identical. Since impacts to wildlife and effectiveness in achieving project purposes necessarily vary from project to project, the Forest Service must consider a reasonable range of alternatives in for this Project as well. Further, as far as the Campaign is aware, the cited projects did not in fact come to the conclusions on which the Forest Service now erroneously relies.

Second, the Forest Service provides no information on which project purposes are not met by an alternative with less intensive logging. As discussed above, logging trees up to 30" dbh is not necessary to achieve fuel reduction goals, a point the Forest Service has conceded in prior projects (Empire etc.) and appears to agree with in the DEIS, p. 83. Further, as discussed above, the Forest Service provides no explanation for why a 30" diameter limit is needed to meet

forest healthy objectives, nor why the limited objectives to enhance aspen stands or bald eagle habitat require a project wide standard intensive logging standard that the Forest Service concedes may have significant and uncertain impacts on sensitive wildlife.

Third, the Forest Service cannot dismiss an alternative, without any discussion, based on a conclusory statement that the higher diameter limit meets other project objectives "more effectively." *Id*. The Forest Service does not explain how this standard can be applied. Under NEPA, an alternative either meets or does not meet a project objective. The Forest Service cannot avoid assessing alternatives based on its own conclusory analysis, not subjected to public scrutiny, that the Forest Service's objectives are not being met as effectively as possible. *See e.g. Lands Council v. Powell*, 379 F.3d 738 (9th Cir. 2004) (NEPA was passed by Congress to protect the environment by requiring that federal agencies carefully weigh environmental considerations and consider potential alternatives to the Preferred Alternative before the government launches any major federal action.)

Fourth, the Forest Service's offhand statement that there is no difference in impacts to wildlife between harvesting trees up to 20" dbh vs 30" dbh is contrary to sound science and the record in this proceeding. As discussed above, and in the Campaign's appeal, old forest wildlife such as owls, marten and fisher all utilize trees between 20" to 30" dbh. *See* Call *et al*. (1992) (owls strongly select stands with a high basal area of trees between 20.7-35.4 inches for foraging) Bias and Gutierrez (1992) ((greater basal area of trees in the 20.7-35.4 inch size class occurred in owl nest stands than in random stands) Blakesley (2003) (greater nest success in stands and greater survival in territories dominated by medium and large trees.) (see Blakesley-Creeks Project Declaration attached) Verner et al. 1992, p. 92 (nearly 25 percent of owl nest trees were less than 30" dbh.) USDI Fish and Wildlife Service 1999, p. 7 (In sum, as the U.S. Fish and Wildlife Service has expressed, "a significant number of potential nest trees could be removed" by logging trees less than 30" dbh.).

Further, such co-dominant conifers provide the needed canopy cover and future recruitment for larger old forest that these species will require for long term viability on the Plumas National Forest. *See* Gladen 2003, p. 11 (Removing trees under 30" diameter also has the effect of "making large tree recruitment in the future more uncertain.") Peery 2004, pp. 2-3; Verner 2003b, p. 3 (harvesting trees up to 30" dbh fails to ensure adequate recruitment of large trees, which are a critical component of owl nesting habitat, once the stock of mature and old-growth trees becomes reduced due to natural mortality.)

As discussed above and in the Kucera 2006 Declaration, the same applies to the marten and fisher.

In response, the DEIS (p. 83) states that an alternative based on the 2001 ROD is not required because this issue is "already decided by law." 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).

Further, the Forest Service incorrectly assumes that the management guidelines under the 2004 ROD constrain its discretion to consider reasonable alternatives under NEPA. The Forest Service may certainly 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) where such alternatives meet project objectives with less impacts to wildlife. 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). (*See also* Discussion above.)

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 18 C.F.R. § 1502.14.

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.

Here, the Freeman DEIS concedes that the population status of old forest dependent species in this area is highly uncertain and that the Preferred Alternative will remove significant amounts of suitable habitat. For that reason, it is arbitrary and capricious and a violation of NEPA for the Forest Service nevertheless to forge ahead without any public discussion of why a more intensive and more harmful level of logging is necessary for this Project. As stated by Dr. Blakesley states in her comments on the Creeks Project in the Lassen National Forest:

> 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).

IV. THE FREEMAN PROJECT VIOLATES OTHER ENVIRONMENTAL LAWS

A. 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). *Earth Island v. USFS* No 05-16776 March 24, 2006… "The 2001 (and 2004) Framework allows for a very limited degree of habitat monitoring in lieu of actual population monitoring, stating that "coarse habitat relationships constitute a relatively insensitive index to the status of populations and would only be appropriate for species with a lower level of concern or for which the status of the population were also being monitored."); *See* 36 CFR § 219.19 (a) (2) & (6)); 2004 SNFPA ROD p. 70; SNFPA FEIS, Vol. 4, Appendix E. Here, the analysis of impacts on management indicator species (MIS/SAR) is legally inadequate for several the following reasons.

First, the Plumas NF lacks baseline data to support the conclusion in the Freeman DEIS/MIS sections if the NEPA document. 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 your 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 affected environment section of the Freeman DEIS lacks benchmark habitat and population data for the management indicator

species identified in the EIS.

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 2005a) As discussed by Preston, this informational gap is particularly critical regarding certain MIS such as mule deer, grey squirrel, woodpecker group, prairie falcon, golden eagle, willow alder songbird community, neotropical migratory birds and a number of other species. (*Id.*)

In certain circumstances, the Ninth Circuit has allowed the Forest Service to comply with NFMA and the 1982 regulations by utilizing 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. Eubank*s, 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."). Distribution data consist of "changes in the presence of species across a number of sample locations" and is a "spatially explicit version of frequency of occurrence data." In addition, the 2004 Framework Appendix E notes that in an area as large as the Sierra Nevada, "changes in the distribution of species represent ecologically significant information on the status and change of populations." Appendix E of the 2004 Framework makes explicit that population data must be collected for several MIS and Species-at-Risk including Deer, Gray Squirrel, Woodpecker Group (Table 3.62 Freeman DEIS p. 279), Golden Eagle, and Prairie Falcon.

Second, the Freeman DEIS fails to adequately assess the cumulative impacts to the Plumas National Forest (PNF) MIS. The PNF Forest Plan and FSM (2620) require management indicator species to be identified, monitored and viable populations maintained. (Preston 2005a) The PNF Plan identified monitoring requirements at the Forest level (1988 PNF Forest Plan, Chapter 5) and indicates that several PNF management indicator species assessed in the Freeman DEIS require annual monitoring. No PNF monitoring data appears in the DEIS therefore the Plumas National Forest cannot support its speculative conclusions regarding the trends of specific MIS in the project. (Preston 2005a) We apply Preston's comments and concepts with the same reasoning to the Freeman project as with the Happy Jack and Empire environmental documents.

<u>Species Specific Issues</u>

MULE DEER

As stated below, concern for the health of California's deer herds has significant history within the management agency, California Department of Fish and Game (Freeman MIS Report p. 11):

"Because of the lack of population monitoring data, it is unknown at what population level is currently being supported but deer numbers are down in all Sierra *Deer Herds (DFG 1998)*

The Forest Service has no quantitative data to document habitat use in the project area for winter range, fawning habitat, summer range, or migration corridors...No *population data is gathered for the Sloat Deer Herd so there is no quantified population information but it is suspected...that the population is well below desired numbers...Although statewide populations are down, no causal relationships have been determined"(Empire FEIS/MIS Report p.7).*

The Freeman MIS report suggests there will be increases in deer cover and foraging habitat from opening up stands and having the 559 acres provide added forage MIS Report p. 14. The DEIS fails to mention that the DFPZs and GS units will not be managed for the brush species deer need but in fact the brush will be the target of future herbicide and fuels maintenance projects, in perpetuity, as these areas are "zone" for significant open structure and clearing for fire hazard reduction. It is misleading to claim that the CWHR 1 and 2 habitat "would persist for several years" and will be a benefit to deer. Not under the existing management direction for these areas.

MIS monitoring is mandated to facilitate the determination of causal relationships. As admitted above, the Forest Service has **no** monitoring data to document habitat use in the project area for winter range, fawning habitat, summer range, or migration corridors. Significant habitat modification from projects such as (Happy Jack, Empire, Slapjack, Watdog, Meadow Valley, Sugarberry, Basin) has or will eliminate forest cover and forage (Preston 2002) and may be negatively affecting deer populations. The Freeman DEIS failed to address Campaign's comments regarding the cumulative effects of projects within and outside the analysis area. The Freeman MIS Report sites the same list of activities and projects for each MIS section and each time fails to draw any detailed, objective or quantitative conclusions from the limited listing of projects. (See cumulative effects comment below) Grazing is mention as an ongoing activity with over 752 cow/calf pairs that, "continue to compete with deer for the limited forage base" but no mention is made of the cumulative impact of grazing to the declining deer trend in the region. The purpose of such monitoring and disclosure is to utilized this information to adjust management to meet LRMP requirements and Federal regulations, not just to record the continuing demise for the Sierra Nevada deer herds.

Thermal and hiding cover is also essential in the life cycles of deer. Studies on winter habitat selection by deer found that the habitat class most selected for was optimal cover. The study concluded that forest management should retain stands of highest possible crown closure in juxtaposition with forage stands. Selective logging may enhance forage production within stands, but will reduce the value of the stand for mid-winter cover. Silviculture prescriptions that involve commercial thinning of conifer canopies or reduction in understory conifer density are

not desirable on mid-winter ranges. (Boulanger et al. 2000). The amount of forest cover can affect dispersal distances of deer. Dispersal distances of juvenile male deer were found to be greater in habitats with less forest cover (Long et al. 2005). The FEIS did not address the issue of dispersal of young, which is imperative, given the cumulative loss of forage and cover throughout the analysis area, the Plumas NF and forest area adjacent to Plumas NF.

As with many species, deer herds move throughout their annual life cycle and they do not stay within the artificial boundaries of the Freeman project. Therefore it is necessary to assess the cumulative impact of the numerous projects as they are likely contributors to the decline in the deer herds of this area. Projects throughout the Plumas and Lassen have already significantly reduced essential forest cover and forage for deer, yet the cumulative effects analysis for Deer (and other identified MIS) is completely absent for the Freeman DEIS in violation of NEPA 40 CFR § 1508.7 and NFMA 36 CFR § 219.19 requirements to monitoring habitat (including cumulative impacts to habitat) and population trend. Cumulative impacts to the deer herds in the Freeman project must consider the impacts to foraging, fawning, and migration habitat and holding areas of the herds to be legally adequate, whether inside or outside the analysis area…the cumulative effects analysis should be focused on the deer, not an arbitrary analysis area that fails to net the herds life cycle behaviors.

In sum, this failure to address cumulative impacts is critical because many of the MIS discussed and listed in your 1988 PNF Forest Plan and 2004 Framework ROD/FEIS are forest plan and district level MIS/SAR that were chosen as indicators of management action at a larger landscape level than the Freeman project landscape. Most of the MIS/SAR move throughout and across project and district boundaries as part of their various life cycle behaviors. Besides the obvious lack of information, truncating the MIS analysis to the project area fails to address indirect and cumulative impacts to these species and thwarts the intended purpose of monitoring broad scale MIS on the forest as required by applicable laws and regulations.

The MIS report (p. 16) does mention that the 2004 SNFPA 5.6 percent to 6.6 percent decline in deer habitat for a five-decade period across the Sierra Nevada range. Unfortunately, the Freeman DEIS fails to draw any concrete conclusion regarding the projects impacts and the additive or cumulative impact to the declining deer herds in the area. This is contrary to NEPA's requirements to take a "hard look" at the projects impacts on various MIS/SAR species.

GRAY SQUIRREL

There has been no monitoring or survey effort on the Beckwourth Ranger District or Plumas NF for gray squirrel and that the population levels and trends are unknown. (Freeman MIS report p. 20) The MIS report sites population simulation estimates for gray squirrels in California (not population data) which provided nothing regarding the numbers in the project area. Again, baseline data is essential to establishing any long-term monitoring program. Without pre-project monitoring and acquisition of data, it would be impossible to link the impacts with the activity (cause and effect).

The Freeman DEIS admits that there has been no monitoring for the gray squirrel on the Plumas NF (Ibid). Yet the Plumas forest plan and the 2004 ROD pg. 70, Appendix-E provide clear direction for monitoring of the species as a management indicator tiered to NFMA 36 CFR § 219.19. The 1999 QLG FEIS APP-AA-19 show significant habitat decreases from QLG Pilot Project logging (-45% loss in GS treatments and -9% loss in DFPZs). The Freeman MIS report claims there is a slight decrease in habitat suitability (from opening up the stands).

The Freeman EIS addresses impacts to the gray squirrel as analyzed a habitat indicator for **oak habitat** within the landscape. The DEIS fails to mention any information about the quantity or distribution of oaks in the project area or the amount of oak habitat needed to maintain a healthy gray squirrel population. In terms of cumulative impacts to gray squirrels which are again completely absent from the DEIS. The analysis fails to mention anything about recent increased hunting pressure from new cultures immigrating into California and the degree to which the squirrel population can survive this additional cumulative impact of increased hunting pressure in more open stands. The EA also fails to address the effects of fire reintroduction in heavy duff and its short terms impacts to hypogeous fungi or the acorn crop…the gray squirrel's key food source.

Gray squirrels avoid large openings and will use aerial routes for escape, cover and access to nest trees (Ingles 1947, Foster 1992). Canopy conditions must also permit this movement. Projected reduction of canopy cover is likely to be a significant impact as it reduces connectivity of branches, forcing squirrels to the ground to move from tree to tree. This may to increase vulnerability to predators or road traffic. This issue was not discussed in the DEIS.

The Freeman DEIS is flawed in its analysis of direct, indirect and cumulative impacts on gray squirrel (see cumulative impacts discussion below). To analyze the cause and effect of the project to populations of this species, the habitat and population concerns must be address with scientifically sound quantitative analysis and monitoring methodology.

WOODPECKER GROUP

The Freeman DEIS/MIS Report, p. 25, states that, "[T]here is little population information available for woodpeckers on the Plumas NF and no monitoring of woodpecker populations or habitat has been conducted, except for a few post-project snag density determinations in the 1980's." Although the DEIS refers to Section 3.2.3. in the 2004 SNFPA FSEIS for information on "current population trends" this information is a CWHR-coarse filter approach and is not site-specific to the project area or the Plumas NF. The 1999 QLG FEIS p. AA-7 states that a finer scale approach is needed to meet NFMA requirements at the project level to address both quality and arrangement of habitat and the "amount, distribution, and sustainability of key wildlife species, including TES and MIS." (*See Earth Island v. USFS cited above*). There have been no surveys or monitoring (for the woodpecker group) conducted on the Plumas National Forest in spite of the fact that both the SNFPA Section 3.2.3., and the 1999 H-F QLG ROD/FEIS revealed significant habitat declines for several MIS based on the 5-year QLG Pilot Project (Freeman DEIS p. 259; 1999 QLG EIS p. AA-19).

The importance of ongoing monitoring of these MIS species should be clear to the FS. The FEIS states that old models underestimated snag requirements and were not adequate to support the populations intended (Bull 1997). Without monitoring population trends, it is impossible to know if the habitat is supporting viable populations. Yet, the FS failed to conduct any monitoring of this MIS group.

In addition, each of the species in this woodpecker group has different habitat requirements, only one of those requirements being the presence of snags. Arsenault, 2003 reported that several studies found significant directional orientation selection of woodpecker cavities. Interspecific and intraspecific competition or nest sites may also influence nest site selection because tree cavities are a discrete resource. Snags that are retained may not possess the specific requirement needs for these species. A significant number of species other than avian, rely upon dead or dying trees. Interspecific and intraspecific competition or nest sites may also influence nest-site selection because tree cavities are a discrete resource. Monitoring of similarly treated areas within the Plumas NF may have provided at least minimal quantitative data on this issue. The number of snags proposed for retention in the Freeman project is unlikely to meet the varied requirements of these species.

The snag retention commitments on the Plumas NF are contradictory where snag retention for GS units are (2 of the largest snags/ac) and yet in the Empire project the Forest Service states that based upon past projects and discussions with sales administrators and OSHA representatives that very few snags would be left (Empire FEIS 3-76). This fact leaves the reviewer to speculate as to the real risks of the proposed project on snag dependent species where DFPZ and GS logging along with general OSHA standards create a fuzzy picture of the real snag retention levels. Post-project snag retention and potential for windthrow (see below) of wildlife retention trees should be assessed in this project based on monitoring of ongoing treatments on the Plumas NF. The cumulative impacts of projects in nearby forest areas that have eliminated habitat for dispersal of young or expansion of territory size due to habitat degradation was also not considered in the Freeman DEIS. In montane areas, Pileated Woodpeckers may move to lower elevations in winter (Bull 1995).

(Above) Pileated Woodpecker cavities in the Freeman project area (Group 86 A, 96 A)

(Below) Meadow Valley Wildlife Tree in GS Unit—windthrow first winter 2005-06

(Above) Additional "leave tree" in same Meadow Valley Unit—windthrow first winter 2005-06.

In some areas, individuals breeding at higher altitudes seem to disperse to lower altitudes during non-breeding season (Jackson 2002). The FS failed to monitor the woodpecker MIS and their breeding and juvenile dispersal patterns and the potential for cumulative impacts, as required. The DEIS failed to address the impact of proposed treatments on prey species (e.g. insects), other food sources, or cover sources for these species. The cumulative impacts of projects in nearby forest areas that have eliminated habitat for dispersal of young or expansion of territory size due to habitat degradation must also be considered.

There is no indication that the USFS consulted current or accurate Sierra Nevada field studies to arrive at the determinations, and there is no identification of the methodology used in determining what constitutes suitable habitat, simply [snag retention levels] are relied upon which is a poor indication of overall habitat capability. The Freeman MIS report p. 28 cites Bull (various studies in Idaho and Oregon) with no mention of the relationship of those habitat types to the Freeman analysis area. Bull does state a recommendation (MIS report p.28) of snags, 9/ac in closed canopy (>30%), with 3.5/ac of these snags >20"dbh. The majority of the Freeman landscape will likely retain 30% cc post treatment. The Freeman MIS report p. 28 mentions to the snag retentions levels in Bull et al. (1997) of [about 4 snags per acre] with the retention of the largest snags in a clumped distribution…then the MIS report makes a logic leap to, "the proposed snag densities in all the action alternatives would provide for habitat needs for woodpeckers."

There is no discussion of snag levels by forest type although the predominate forest type is eastside pine/eastside mixed conifer with a snag requirement of 3/acre (DEIS p. 111). These is no mention of the spatial distribution of snags per-and post treatment by various forest types. The DEIS makes no mention of the fact that the 2004 SNFPA FSEIS ROD p. 69 recommends leaving fewer snags in WUI and DFPZs as a standard practice, and how this lower requirement would affect the Freeman snag retention outcomes and the wildlife that depends on dead and decaying trees. The DEIS fails to disclose the degree that the past decade of salvage and hazard tree harvesting has affected the snag pool in conjunction with the various alternatives.

The DEIS also fails to address all characteristics of snags that will be retained. Many species have preferences for size, aspect and spacing of snags. Arsenault (2003) reported that several studies found significant directional orientation selection of woodpecker cavities. Interspecific and intraspecific competition or nest sites may also influence nest-site selection because tree cavities are a discrete resource. Snags that are retained may not possess the specific requirement needs for these species. This was not addressed. The FEIS fails to address the full direct/indirect impacts on the woodpecker MIS/SAR species. Recently, the 9th Circuit has held that an environmental analysis did not take a "hard look" at the cumulative impacts of a proposed action where the sections devoted to discussing direct, cumulative, and foreseeable actions, gave no objective or qualified assessment of the combined environmental impacts of the information presented (See *Klamath-Siskiyou Wildlands Center v. Bureau of Land Management*, 387 F.3d 989, 994-95 (9th Cir. 2004). The failure to analyze the cumulative impacts and population trend for this critical management indicator places the woodpecker guild at serious risk and fails to met the management requirements if the PNF Forest Plan and the 2004 Framework.

Additional MIS Lack Adequate Analysis.

The Willow-Alder assemblage (a PNF management indicator assemblage) MIS species for this community includes Swainson's thrush, Warbling vireo, Yellow warbler, Yellow-breasted chat, White-crowned sparrow, Sandhill cranes, and willow flycatchers as part of this important assemblage. Also various fish, turtles and amphibians. The Freeman project contains various meadows, seeps, springs, and over 48 miles of perennial streams. Willow, alder, cottonwood, aspen, dogwood and big-leaf maple make up the primary shrub and tree species. The 1996 SNEP Report Vol. II, Chapter 36 cites riparian habitats in the Sierra Nevada are the most damaged of all ecosystem types in the range. Fragmented from logging and road-building, over-grazing, hydrologic alteration from water diversions, and various other past and on-going management activities continue to place MIS/SAR species at increased risk.

The Freeman DEIS lacks habitat monitoring or population monitoring data for the Willow-Alder assemblage MIS/SAR and provides the same listing of potential cumulative impacts with no detailed, objective, or quantitative analysis of the activities disclosed or their cumulative environmental consequences and is therefore contrary to the Plumas Forest Plan, law and regulation.

Golden Eagle was discussed in the MIS Report p.33, including a statement that the project is not impacting known nest sites, although the DEIS lacks any cumulative effects analysis or population data for the Golden Eagle the DEIS claims the project would not cause any change in population distribution across the Plumas NF or the Sierra Nevada range…a rather sweeping conclusion based on such a paucity of monitoring data.

In the recent Empire project DEIS, located west of the Freeman project, the MIS analysis stated that the Forest Service use to monitor Golden eagle sites and that the monitoring has dropped off in recent years. The 2004 SNFPA requires annual monitoring for golden eagles in the Freeman project.

Cumulative Effects Analysis

The cumulative effects analysis lacks necessary habitat and population data for several forest-wide MIS cited above. The spatial scale of the impact assessment is inappropriately focused on the analysis area and not on the species that migrate, disperse and complete various life-cycle functions outside the analysis area. It does not include an analysis of suitable habitat available outside the project area available for supporting viable populations of MIS species after the cumulative implementation of past and future foreseeable projects. This also applies to SAR and NTMB species categories which are declining or at risk. This is the case for most MIS species addressed in DEIS. Black bear, a MIS/SAR species in the 2004 ROD Appendix E, was not addressed at all in the DEIS. Black bear have large home ranges and territories and move about these territories throughout the spring, summer and fall seasons (Preston 2002). As stated above, mule deer also move long distances throughout the year. The Forest Service can not treat the analysis area like a fence which limits MIS movement.

1988 PNF MIS List in Freeman DEIS

Species	Habitat	Monitoring/Population Data Available Y/N?
Deer	Early, seral, shrub	NO
Gray Squirrel	Oaks	NO
Woodpecker Group	Snags	NO
Prairie Falcon	Early seral/cliffs	NO
Golden Eagle	Open-crowned trees/cliffs	NO

1) **The Freeman DEIS fails to adequately assess the cumulative impacts to the Plumas National Forest (PNF) MIS.**

The Freeman DEIS and MIS report provide only cursory mention of activities and potential projects that may affect MIS. The mere mention of projects and activities fails to meet NEPA's requirements to take a "hard look" at the cumulative impacts of a proposed action where the

EA/EIS has sections devoted to discussing direct, cumulative, and foreseeable actions, but gives no objective or qualified assessment of the combined environmental impacts of the information presented. Merely stating (MIS report p. 29) that past actions [grazing, timber harvest and recreation use] existed fails to meet NEPA's requirement for a hard look, nor does the listing of current activities such the "Humbug DFPZ, Long Valley KV and hazard projects." Also, mentioning future projects [Grizzly DFPZ, Cutoff, Mt Ingalls, future firewood cutting or the 13 Special Use Permits, without disclosing detailed, objective and quantified assessments of the impacts (environmental consequences) or meaning of the possible habitat and population effects to MIS/SAR from the activities and their cumulative impacts, clearly fails to meet legal standards as required in the 2004 SNFPA, NFMA regulations and existing case law (See *Earth Island v. USFS* March 24, 2006).

The PNF Forest Plan and FSM (2620) require management indicator species to be identified, monitored and viable populations maintained.

The PNF Plan identified monitoring requirements at the Forest level (1988 PNF Forest Plan, Chapter 5) and indicates that several PNF management indicator species assessed in the Freeman DEIS require annual monitoring. No PNF monitoring data appears in the Freeman DEIS therefore the Plumas National Forest cannot support its speculative conclusions regarding the trends of specific MIS in the project.

Regarding the woodpecker group, the DEIS admits to no population or habitat monitoring for each of the species mentioned.

Woodpecker Species In Project Area	**Annual Monitoring Required by Forest Plan**	**Required by 2004 SNFPA SFEIS**
Pileated Woodpecker	Yes	Yes
Lewis's Woodpecker	Yes	
White-headed Woodpecker	Yes	
Red-breasted Sapsucker	Yes	Yes
Downy Woodpecker	Yes	
Hairy Woodpecker	Yes	Yes
Northern Flicker	Yes	

In conclusion, the cumulative effects analysis lacks necessary habitat and population data for several forest-wide MIS cited above. The spatial scale of the impact assessment is inappropriately focused on the analysis area and not on the species that migrate, disperse and complete various life-cycle functions outside the analysis area. The Forest Service can not treat the analysis area like a fence which limits MIS movement. Such a notion is contrary to sound science and existing law.

2) **The H-F QLG program of work is a reasonably foreseeable future action with significant cumulative impacts on a variety of wildlife including the PNF MIS.**

The 1999 QLG FEIS section AA-18 identifies changes in habitat values for MIS in the pilot project area. Although there was no baseline habitat assessment or population and habitat monitoring to support the conclusions for MIS in the QLG FEIS, there are certainly some alarming habitat impacts to MIS from the QLG pilot project as currently implemented. In fact the impacts are worse that the 1999 QLG assessment since there currently no canopy requirements in the 2004 ROD for DFPZs in class 4 strata.

Gray 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 (1999 QLG FEIS APP AA-19).

The QLG Program of Work is listed on the Forest Service/QLG website: http://www.fs.fed.us/r5/hfqlg/impplan/implement/imp_plan_06_2004_files/FY05_FY09_implementation_plan.pdf. This 18 page list identifies 5 years of proposed actions by location, sawlog volume and acres-treated and is a reasonably foreseeable future action under NEPA. The Freeman DEIS fails to assess the cumulative impacts from the pilot project to forest plan MIS which migrate through, disperse young, and utilize habitat within and outside the project area. The MIS/SAR analysis is flawed for not considering the forest plan level cumulative impacts by utilizing forest plan level indicator species and for failing to assess impacts from the HFQLG Pilot Project program of work 1999-2009.

3) **The Freeman DEIS fails to meet forest plan requirements for the protection of MIS in the revised 2004 SNFPA ROD.**

The 2004 Sierra Nevada Forest Plan Amendment (SNFPA) Final Supplemental Environmental Impact Statement (FSEIS) and Record of Decision (ROD) incorporate Appendix E from the 2001 SNFPA ROD/FEIS into the current forest plans (2004 SNFPA ROD p. 70).

The 2004 SNFPA FSEIS Monitoring Section--Appendix E (pages E-64,76,98) addresses these requirements for annual population trend monitoring for a variety of MIS and Species At Risk (SAR). The SNFPA Monitoring Section identifies MIS and SAR where population tracking and monitoring of population trend is "expected annually" SNFPA FEIS, Vol. 4, Appendix E-62-64 Table E9; E-75-77 Table E-10; E-96-100 Table E11.

SNFPA Birds - Old Forests and Associated Species

Name	MIS	SAR	FSS	Other	Vul	Monitoring level	Population Monitoring Required
Pileated woodpecker	X				L	Dist	X
Hairy woodpecker	X				L	Dist	X
Blue Grouse	X				M	Dist	X

Mountain Quail	X				L	Dist	X
Williamson's Sapsucker	X				L	Dist	X
Band-tailed pigeon	X	X			M	Dist	X
Olive-sided flycatcher		X			M	Dist	X

SNFPA Birds - Lower Westside Hardwood Forests

Name	MIS	SAR	FSS	Other	Vul	Monitoring level	Population Monitoring Required
Golden Eagle	X				L	Dist	X
Prairie Falcon	X				L	Dist	X
Turkey	X				L	Dist	X
Long-eared owl	X				H	Dist	X

SNFPA Birds - Aquatic, Riparian, and Meadow Ecosystems

Name	MIS	SAR	FSS	Other	Vul	Monitoring level	Population Monitoring Required
Yellow warbler	X				L		X
Red-breasted sapsucker	X				M	Dist	X
Mountain white-crowned Sparrow		X			H	Dist	X

SNFPA Mammals - Old Forests and Associated Species

Name	MIS	SAR	FSS	Other	Vul	Monitoring level	Population Monitoring Required
Western gray squirrel	X				M	Dist	X
Black bear	X				M	Dist	X
Pygmy rabbit		X		FSC,CSC	H	Dist	X
SN snowshoe hare		X		FSC,CSC		Dist	X

The Freeman DEIS fails to mention or address impacts to the expanded MIS/SARs list in 2001 SNFPA/Volume 4, Appendix-E which is part of the Forest Service management responsibility under the 2004 SNFPA ROD p. 70. There is no evidence in the record showing the region, forest or district has met this SNFPA forest plan requirement since 2001. The Freeman DEIS analysis lacks necessary data to support a positive trend determination for MIS/SAR in the amended 2004 SNFPA and ROD. The national forests must follow their regional and local forest plan requirements (36 CFR § 219.10) to be consistent with Federal law.

4) Appendix E-Cumulative Effects Freeman DEIS p. 491-496

Comment: From the November 18, 2005 Empire Appeal Decision—"The list of past, present and reasonably foreseeable future actions (Appendix G) is the most comprehensive I have ever seen and the Forest is to be commended for that. However, merely listing past, present, and reasonably foreseeable future actions does not constitute adequate cumulative effects analysis."

In Conclusion:

Overall, the Freeman DEIS analysis fails to mention several other projects (proposed or decided) on the PNF that will impact forest-wide MIS cumulatively, including the Basin, Watdog, Happy Jack, Sugarberry, Slapjack, Meadow Valley, Diamond and Empire projects. (See discussion *supra*.) Many of the MIS identified in the Forest Plan and the Freeman project move throughout the Plumas National Forest and are therefore potentially affected by a variety of cumulative impacts across the forest, not just limited to the Freeman project area. The Freeman DEIS analysis is flawed because the impact assessment focuses upon the analysis area and not the specific behaviors of MIS/SAR identified in the project/forest plan. Further, the Freeman DEIS admits to no population or habitat monitoring for each of the species mentioned in the MIS section.

The cumulative effects analysis lacks necessary habitat and population data for several forest-wide MIS (similar to the issues discussed in Preston 2005a). The spatial scale of the impact assessment is inappropriately focused on the analysis area and not on the species that migrate, disperse and complete various life-cycle functions outside the analysis area. The Forest Service can not treat the analysis area like a fence which limits MIS movement. Such a notion is contrary to sound science and existing law. *See e.g., NRDC v. Hodel*, 865 F.2d 288, 299 (D.C. Cir. 1988); S*ave the Yaak Comm. v. Block*, 840 F.2d 714, 720-721 (9th Cir. 1988); *Washington Trails Association v. United States Forest Service*, 935 F. Supp. 1117, 1122-23 (W.D. Wash. 1996).

Third, 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 PNF 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 2005a, 2005b). 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 (1999 QLG FEIS APP AA-19); (Preston 2005a, 2005b).

The Freeman 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. *See e.g., NRDC v. Hodel, supra.*

Fourth, the Freeman DEIS fails to meet forest plan requirements for the protection of MIS in the revised 2004 SNFPA ROD. The 2004 Framework FSEIS and ROD incorporate Appendix E from the 2001 SNFPA ROD/FEIS into the current forest plans (2004 SNFPA ROD p. 70). The 2001 SNFPA FEIS Monitoring Section--Appendix E (pages E-64,76,98) addresses these requirements for annual population trend monitoring for a variety of MIS and Species At Risk (SAR). The SNFPA Monitoring Section identifies MIS and SAR where population tracking and monitoring of population trend is "expected annually" SNFPA FEIS, Vol. 4, Appendix E-62-64 Table E9; E-75-77 Table E-10; E-96-100 Table E11.

Based upon the information in the Freeman DIES and the clear failure to meet the NEPA disclosure and requirements for monitoring of habitat and population trend in the 1988 PNF Forest Plan and the revised 2004 SNFPA ROD, the Plumas National Forest fails to provide an adequate scientific foundation to support the conclusions regarding impacts to MIS/SARs. In fact, it makes no clear conclusions or findings as required by existing law. +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. The Forest Service is operating outside the current legal and scientific standards which guide today's forest management on federal land.

B. The Freeman 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 the 1998 QLG ACT and partially represented in Appendix L of the HFQLG FEIS. 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.

Alternatives 1, 3 and 4 of the Freeman Project violate the direction in the SAT guidelines in two ways. First, these alternatives establish a purpose that is not consistent with the SAT guidelines. One of the stated purposes of the fuel treatments in RHCAs in the Freeman Project is to "provide a safer and more effective fire suppression environment." Presumably, this refers to the DEIS' alleged need to reduce the canopy in stands within the DFPZs to as little as 30% canopy cover and to remove trees between 20" and 30" dbh in order to allow the delivery of fire retardant. 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 RHCAs will likely degrade the existing microclimate and habitat. (Ibid., p. L-9).

Second, Alternatives 1, 3 and 4 harvest at an intensity beyond what is necessary to meet the Riparian Management Objectives. A review of the Vegetation Report and Fire and Fuels Report indicates that it is not necessary to reduce canopy to 30% and remove trees over 20" dbh to increase the fire resiliency and reduce stand density of the affected stands. Modeling results for alternatives where 50% canopy cover and trees greater than 20" dbh are retained, indicate substantial increases in fire resiliency. For example, torching and crowning indices are predicted to be 3 to many times greater than the winds expected under the 90th percentile weather conditions. This means that the wind speed in the RHCA must substantially exceed the wind speeds found under extraordinary conditions (i.e. the 90th percentile weather condition) in order to move through the crown of the forest. Also, with respect to reducing stand densities and increasing the size of the residual trees, modeling results indicate that other alternatives will achieve target stand densities. (Vegetation Report, p. 27). Thus, the objectives supported by the SAT guidelines to increase fire resiliency and improve forest health can be achieved by limiting reduction of canopy cover to 50% and to retaining trees over 20" dbh.

Impacts to Watershed Resources

In the Freeman DEIS Proposed Action, eight hundred and forty acres of Riparian Habitat Conservation Areas (RHCA) would be treated mechanically. RHCAs widths were delineated at 150 feet, the height of a site potential tree. Five hundred and nine acres of aspen would be treated, 350 of which would be in RHCAs. Aspen treatments include a 75-foot extended treatment zone. Aspen treatments in RHCAs would be limited to slopes of 15 percent or less.

Under Alternative 4 (preferred) seven hundred and forty seven acres of Riparian Habitat Conservation Areas (RHCA) would be treated mechanically. RHCAs widths were delineated at 150 feet, the height of a site potential tree unless the outer edge of the riparian vegetation was greater. By using this criterion for RHCA width delineation there was a 47 acre increase in the RHCAs. All 47 acres would be treated mechanically.

One hundred eighty one acres of aspen would be treated, all of which would be in RHCAs. Aspen treatments in RHCAs would be limited to slopes of 35 percent or less.\

I. The Freeman DEIS fails to present adequate defense for this aggressive logging in sensitive riparian areas where riparian dependent resources (including various plant and wildlife MIS/SAR mentioned above). RHCAs provide buffers to maintain important ecological functions such as the recruitment and movement of woody debris in and throughout the stream systems. RHCA also provide important refugia for at-risk species and movement corridors for goshawks, marten and fisher (SAT, p. 444-447).

The 1999 QLG ACT utilizes the 1993 Scientific Analysis Team (SAT) Guidelines for management direction for aquatic and Riparian resources on the Plumas National Forest. SAT requires that Riparian Habitat Conservation Areas be established and that watershed analysis be completed at appropriate scales for habitat protection and restoration. RHCAs are portions of

watersheds where riparian dependent resources *receive primary emphasis* and where special standards and guidelines apply (SAT p. 443) (emphasis added).

SAT (p. 440) requires riparian and aquatic ecosystems in the QLG Pilot Project area be managed to achieve the following specific riparian management objectives:

Old-Growth Species

1. Maintain or restore water quality to a degree that provides for stable and productive riparian and aquatic ecosystems. Water quality parameters that apply to these ecosystems include timing and character of temperature, sediment, and nutrients.

2. Maintain or restore the stream channel integrity, channel processes, and sediment regime under which the riparian and aquatic ecosystems developed. Elements of the sediment regime include the timing, volume, and character of sediment input and transport.

3. Maintain or restore instream flows to support desired riparian and aquatic habitats, the stability and effective function of stream channels, and the ability to route flood discharges.

4. Maintain or restore the natural timing and variability of the water table elevation in meadows and wetlands.

5. Maintain or restore the diversity and productivity of native and desired non-native plant communities in riparian zones.

6. Maintain or restore riparian vegetation to provide an amount and distribution of large woody debris characteristic of natural aquatic and riparian ecosystems.

7. Maintain or restore habitat to support populations of well-distributed native and desired non-native plant, vertebrate, and invertebrate populations that contribute to the viability of riparian-dependent communities.

8. Maintain or restore riparian vegetation to provide adequate summer and winter thermal regulation within the riparian and aquatic zones.

9. Maintain or restore riparian vegetation to help achieve rates of surface erosion, bank erosion, and channel migration characteristic of those under which the desired communities developed.

10. Maintain and restore riparian and aquatic habitats necessary to foster the unique genetic fish stocks that evolved within that specific geo-climatic ecoregion.

II. The Freeman DEIS fails to identify how the projects RHCA logging will benefit these key riparian and aquatic management objectives (particularly objective #7) since the DEIS lacks specific data on population trend and habitat quality and needs for the aquatic-riparian MIS/SARs in the 2004 SNFPA Appendix E-98 Table 11. The DEIS suggest that Trout/MIS populations suffer from a lack of clean spawning gravels. How will logging in RHCAs improve this existing condition?

FROM: Scientific Analysis Team's (SAT) Report (QLG ACT Section (c) (2) (B))

"Viability Assessments and Management Considerations for Species Associated with Late-Successional and Old-Growth Forests of the Pacific Northwest", USDA Forest Service Research, March 1993

The standards and guidelines that follow are not all-inclusive. Watershed and riparian area management on lands managed by the Forest Service is guided by a variety of direction, including Best Management Practices, Forest Service manuals and handbooks, and other plans and directives. For the lands contained within the Riparian Habitat Conservation Areas, these standards and guidelines supersede other direction, unless the conflicting standard or direction affords greater protection to riparian and fish habitat values and better foster attainment of the Riparian Management Objectives.

Timber Management

TM-1. Prohibit scheduled timber harvest, including fuelwood cutting, in Riparian Habitat Conservation Areas. Allow unscheduled harvest only as described in TM-2 and TM-3.

TM-2. Where catastrophic events such as fire, flooding, volcanic eruptions, severe winds, or insect or disease damage result in degraded riparian conditions, allow unscheduled timber harvest (salvage and fuelwood cutting) to attain Riparian Management Objectives. Remove salvage trees only when site-specific analysis by an interdisciplinary team determines that present and future woody debris needs are met and other Riparian Management Objectives are not adversely affected.

TM-3. Design silviculture prescriptions for Riparian Conservation Areas and allow unscheduled harvest to control stocking, reestablish and culture stands, and acquire desired vegetation characteristics needed to attain Riparian Management Objectives.

We believe that the interim widths of the Riparian Habitat Conservation Areas will provide protection for riparian forests and maintain ecological functions and processes necessary for the creation and maintenance of habitat for fish and other-riparian dependent organisms. Existing data could be used to argue for wider Riparian Habitat Conservation Area widths, at least in certain stream categories.

The SAT Guidelines carry a clear prohibition against scheduled timber harvest and a requirement for unscheduled harvest to lay out, with considerable rigor, the specific rationale for how the 800+ acres of RHCA logging in the Freeman DEIS will maintain ecological function and processes, and maintain and restore habitat for aquatic and riparian dependent species in the planning area and broader landscape. Fire and Fuels Management (FM-1 SAT p. 452) requires the design of fuels treatments to "minimize disturbance of riparian ground cover and vegetation." These SAT standards point to a lack of internal consistency and conflict with the proposed logging in RHCAs in the Freeman DEIS. The Freeman CWEA fails to address the required RMOs cited above and is therefore inconsistent with the Forest Plan and the 1998 QLG ACT.

Watershed analysis is required at a larger scale between forest and project planning (not in a decision document) to guide the broader restoration and rehabilitation efforts (SAT p. 455). There is no record in the DEIS that suggests this analysis was completed.

III. Watershed Impacts at or approaching TOC.

Several Watersheds in the Freeman DEIS are at or approaching TOC…Val (U) and Cow (U) are at high risk of CWEs. The Freeman DEIS fails to explain how logging in these high risk watersheds will benefit the RHCAs and meet the Riparian Management Objectives in the SAT Guidelines listed above. It appears that rather than conducting a watershed analysis as required by SAT and the QLG FEIS, the Forest Service would rather plow ahead with 740-840 acres of logging in RHCAs without consulting or addressing the broader forest plan standards by which the activities of the PNF are governed. This action violated NMMA and the consistency requirements of the forest plan.

In sum, adopting a management objective to management for 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.

C. The Freeman DEIS proposes logging that is inconsistent with the Plumas NF Forest Plan and NFMA's soil quality protection requirements.

Region Five soil quality analysis standards (USDA Forest Service 1995) provide threshold values for soil properties and conditions to use as indicators of significant change in soil productivity, soil hydrologic function, and soil buffering capacity, and in turn, to maintain or restore ecosystem health diversity and productivity, and water quality. Detrimental soil disturbance is the resulting condition when threshold values are exceeded. The components of soil productivity addressed by these standards are soil cover, soil porosity, and organic matter.

The Plumas National Forest Land and Resource Management Plan (PNF LRMP) provides standards and guidelines for protecting the soil resource. The Freeman DEIS plan discusses specific guidelines for soil productivity measures, such as soil cover, large woody material retention and soil compaction. A summary of the PNF LRMP soil standards and guidelines is in DEIS Appendix E. The three main concerns are, detrimental soil compaction, sufficient ground cover and the maintenance of large woody material (large logs) on the ground across the unit area.

The forest-wide soil standards and guidelines (USDA Forest Service 1988) provide a guide for prescribing effective ground cover based on the Region 5 Soil Erosion Hazard Rating system (USDA Forest Service 1990). Minimum effective ground cover for soils with erosion hazard ratings of low, moderate, high, and very high, are 40, 50, 60, and 70%, respectively. To avoid land base productivity loss due to soil compaction, the forest level soil standards indicate that the area dedicated to landings and permanent skid trails should not exceed 15% of a timber stand unit. Detrimental compaction exists when soil porosity is reduced by more than 10%, relative to natural conditions (USDA Forest Service 1995) (Freeman DEIS Watershed and Soils Assessment)

Background compaction from whatever causal source, historic or project related, must not exceed 15% of the unit area with a 10% loss of porosity, based upon the Forest Plan standards (USDA Forest Service 1988 PNF Forest Plan).

1.. The Freeman DEIS Soils Analysis p. 338 displays the level of compaction in various unit areas in the project area in Table 3.74. Even with sub-soiling, the level of compaction is significantly higher in several units than the Plumas Forest Plan allows.
The DEIS states at p. 337 the historic condition of "three units" (actually it is four units) 1,9,48,74 are over 15% compacted. These same four units remain over 15% compacted post-treatment and two additional units would experience increases of >15% compaction post treatment. This is a violation of NFMA and the existing PNF Forest Plan Soil Quality standards.

The Freeman DEIS p. 336 also states that monitoring of the effectiveness of sub-soiling is only 66% effective as mitigation for detrimental soil compaction. The QLG Pilot Project

monitoring of soil resource is showing increasing levels of detrimental soil compaction and loss of productivity of soil resources. Three consecutive Status Reports to Congress (USDA 2004, 2005, 2006) show increasing levels of detrimental soil compaction (detrimental soil compaction is when 15% or more of an activity area is in compacted conditions measured as a 10% loss of soil porosity as compared to undisturbed conditions).

The 2004 Report p. 13 found that 8% of the units sampled had detrimental soil compaction. The 2005 Report p. 43-45, (FY 2004) was the first year that post-treatment sampling occurred allowing a comparison of pre-treatment and post-treatment conditions. Nine DFPZ thinning units were resampled post-treatment. Six of the units were at or over threshold for detrimental soil compaction due to previous activity-legacy compaction. The pre-treatment values ranged form 15-33 percent. Post-treatment the values ranged from 20-58 percent. These findings are consistent with other soil monitoring studies that have found varying degrees of detrimental compaction occurring from management activities, (Westmoreland 1998, Wayne Johannson 1991, Froelich 1979, T.E. Sullivan 1988). In the 2005 report several units also failed to meet the requirements for large woody material.

The 2006 draft Report to Congress (FY 2005) p. 57, asked the question…Do activities meet Soil Quality Standards? The answer is clearly NO. The Plumas NF, Forest Plan Standards are being exceeded in violation for the existing plan requirements.
Pre-treatment sampling on 169 harvest units showed 33 percent of the units exceeded the threshold prior to the Pilot Project. This indicates existing forest plan violations of soil standards are common on the Plumas NF. Of 31 units sampled post-treatment in 2005, 15 units (48 percent) exceeded the standard prior to implementation and 21 units (68 percent) after treatment. Of 20 thinning units, 12 units (60 percent) were over threshold pre-treatment and 15 units (75 percent) were over threshold after treatment. Of 11 GS (group selection) units, 3 units (27 percent) were over threshold before treatment and 6 units (55 percent) were over after treatment. Disregard for the Soil Quality Standards and the loss of soil productivity across the Plumas NF appears to be a common practice.

2.. The Freeman DEIS p. 337-339 (Alt. 1); DEIS p. 354 Alt. 3); DEIS p. 359 (Alt. 4) all display significant per-and-post project compaction levels. The detrimental soil compaction displayed in the Freeman DEIS violates NFMA and the Plumas National Forest Plan requirements for protecting soil resources (36 CFR § 219.10; § 219.27 (a) (1)).

a. We request the PNF drop all units with historic detrimental soil compaction levels currently >15% of the unit area as required by the Plumas Forest Plan.
b. We request all areas of the Freeman project where there is evidence of past logging and detrimental compaction be restored prior to another entry.
c. We request that no area be included in the project where historic conditions and project activities that will leave the unit area with >15% detrimental soil compaction, loss of cover or lacking in large woody material as required by the PNF Plan.

III. The logging in Riparian Habitat Conservation Areas is particularly disturbing. All three of the action alternatives involve significant logging (mechanical treatments) in the RHCAs (Alt 1-840 acres; Alt 3-750 acres; Alt 4-747 acres). The DEIS fails to disclose the specific levels of historic compaction in RHCAs or the amount of project-related compaction in the RHCAs under the various alternatives. The DEIS fails to discuss how the logging and associated disturbance, in the various alternatives, meet the Riparian Management Objectives (SAT p. 441) and the desired ecological conditions for aquatic-riparian habitats. NEPA requires the Forest Service to take a "hard look" at the impacts to soils, water quality, and wildlife in these sensitive RHCAs and not ignore the requirements under the 1999 QLG FEIS, the 1993 SAT Guidelines, or the Plumas Forest Plan.

V. REQUESTED ACTION

For the foregoing reasons, the Campaign urges the Forest Service to consider a more moderate logging alternative, as discussed above, in order to ensure that sensitive wildlife species is protected while necessary fuel reduction activities are implemented. The Campaign does not believe that any of the other more intensive action Alternatives are consistent with the National Forest Management Act and other federal laws. In addition, the DEIS does not comply with NEPA on a number of grounds, thereby necessitating a more robust and meaningful analysis and further circulation for public review. Therefore, we request the Forest Supervisor direct that the Freeman Project DEIS be significantly revised to comply with all environmental laws.

DATED: July 7, 2006 Submitted via internet

Respectfully submitted,

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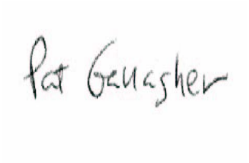

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