

Data Submitted (UTC 11): 8/21/2017 7:00:00 AM

First name: Denise

Last name: Boggs

Organization: Conservation Congress

Title: Director

Comments: Dear Mr. Myers,

The following are the comments of Conservation Congress on the Highway 89 Safety Enhancement and Forest Restoration Project, as described in the project's Draft Environmental Impact Statement (DEIS).

In general, we believe that most of the proposed project is not necessary, and could have some adverse impacts on various resources, including various wildlife species.

I. IS WIDESPREAD TREATMENT NEEDED?

It is commonly assumed that western forests dominated by ponderosa pine and many mixed conifer forests with this species had a frequent, low-intensity fire regime, and that with modern fire suppression, these areas are outside their range of natural variability. See, e. g., Fire, Fuels and Air Quality Report (FFAQ) at 1. However, recent research has cast doubt on that assumption. For example, Baker, 2014, studied four areas in California and found that the mixed conifer forests, only 13-26 percent had only low intensity fire, 43-48 percent had mixed severity fire, and 31-39 percent had high severity fire.

It is also commonly assumed that fire suppression has caused high-severity fires to increase. See FFAQ at 1. However, a recent study casts considerable doubt on this belief. See Hanson and Odion, 2014.

In a study of fire patterns in the western Klamath Mountains of California, Odion et al, 2004, found no increase in severe fire, and also found that multi-aged, closed canopy forests burned with much lower severity fire.

With all of these recent studies, it is questionable that the widespread treatment proposed in the project is needed to address forest and ecosystem health. Treating vegetation in the wildland-urban interface, where fuel reduction may be desirable, could help protect infrastructure and people. However, only a small portion of the project area is in the WUI defense zone. See DEIS Figure A-1, p. A-3.

Furthermore, the entire McCloud Ranger District has been unsustainably logged over decades, yet wildfires still occur periodically. This is evidence itself that the FS can't log its way out of wildfire that is based on extreme

climate conditions and not fuel based.

II. THE TREATMENTS PROPOSED FOR THE HIGHWAY 89 CORRIDOR ARE EXCESSIVE.

Highway 89 through the project area is part of the Volcanic Legacy Scenic Highway. DEIS at 5. The Federal Highway Administration has designated this as an "All-American Road, the highest level of national scenic byway designation". Scenery Report at 1.

Under the proposed action, trees 4 inches and greater in diameter at breast height (DBH) would be removed from a corridor 150-275 feet wide on the south side of the highway and 150-200 feet on the north side. DEIS at 22. This corridor runs for a distance of 10.2 miles. Id. at 11. Why is there a need to treat vegetation from such a sizable area in the Hwy 89 corridor? The road has no switchbacks, and only a small number of curves. Visibility should be sufficient for all drivers operating at a reasonable speed with no treatment, or it would become sufficient with reduction of vegetation only in the areas immediately adjacent to the highway.

As for melting snow faster, cutting trees near the road, but for a much shorter distance than proposed, should be sufficient to aid snowmelt. Generally, drivers expect to encounter snow in the winter, and adjust for conditions accordingly. Again, the road is mostly straight, so accidents are less likely than on a steep mountain road with switchbacks or other tight curves. Clearing vegetation to allow sunlight to hit the road might help melt off any snow sooner, but it could give drivers a false sense of security. They would drive faster as a result, and be more accident-prone when they hit road sections outside the project area that had not had clearing along the road to facilitate snow and ice melt, and thus had some snow and/or ice on them.

If branches overhang the highway and limit visibility and/or accumulate snow that later drops onto the highway, the solution is to prune these branches rather than taking out whole trees. Or just cut a few trees immediately adjacent to the highway rather than in a wide swath. Certainly, cutting in the 150 to 275 feet on the south side of the highway and 150-200 feet on its north side cannot be justified on the basis of a purported need to increase visibility. This is a large tree grab and nothing more. The FS has consistently failed to address this issue despite repeated public comment on this issue.

Clearing the vegetation along the highway would fragment wildlife habitat by creating a much wider opening, making it much more difficult for animals to cross the highway. Foraging habitat for northern spotted owl (NSO) would be removed by the treatments along the highway. Draft Biological Assessment for Aquatic and Terrestrial Threatened, Endangered and/or

Proposed Fish and Wildlife (DBA) at 52. (See further discussion on effects to NSO below.) Deer are at historically low populations and hiding cover is lacking already along Highway 89. If this project proceeds, the limited hiding

cover present will be eliminated, thereby affecting deer as well as wolves, which are now present in the area with deer being their preferred prey. This issue is not addressed in the DEIS.

III. MAINTAIN AND PROTECT SCENERY. The State of California places a high value on the attributes of the Volcanic Legacy Scenic Highway, including the scenic resource. Scenery Report at 13-14. Implementing the treatment proposed in alternative 3 would make it difficult if not impossible to meet the visual quality objectives (VQOs). The basal area on the south side of the highway after treatment would be 80 square feet per acre; on the north side, it would be 100. DEIS at 22. Mastication could occur on up to 70 percent of the treated lands. Ibid.

From another perspective, proposed treatment would be intense. Alternative 3 would change the fire regime condition class (FRCC) so that 100 percent would have a low departure from historical conditions. Currently, 80 percent has high departure. DEIS at 59. Many trees would have to be removed to effect this strong change in the FRCC. This would be a quite noticeable change from the current dense stands. (See scenery Report at 2.)

After treatment, the relatively open stand on the south side and the presence of masticated material that would result in increasing fire risk, would surely detract from the scenic quality of the Highway 89 corridor. Thus the project would not likely comply with the Forest Plan requirement for meeting a visual quality objective of retention in the foreground (one-quarter to one-half mile) of the Highway 89 corridor. Plan at 4-27, 4-28.

Retention is defined as follows:

Retention (R) - provides for management activities which are not visually evident to the casual Forest visitor. Activities may only repeat form, line, color, and texture which are frequently found within the characteristic landscape. Changes in size, intensity, patterns, etc. should not be evident.

Scenery Report at 5.

The Scenery Report states that the VQO of retention would be met because of the application of resource protection measures (RPMs) on 150 feet on each side of the highway. But the most import scenery RPM for meeting the VQO in the Highway 89 corridor is as follows:

Visual impacts of machine piling, landings, dozer lines, or newly constructed temporary roads will be minimized within the corridor, where possible (i.e. where dozer lines will be constructed next to private property).

DEIS at 43; emphasis added. From maps of the project area in DEIS Appendix A, we see that the Highway 89 corridor is not adjacent to private land, except at the borders of national forest land on both sides of the Mt. Shasta and Snowman's Blocks and the west end of the McCloud Block. This is a very small fraction of the long corridor through the project area that is proposed for treatment. Thus it is questionable how much the visual impacts can be reduced. But even if this RPM was applied, travelers on Highway 89 would see stumps, skid trails, slash, masticated chunks, and other artifacts of logging. Thus it is hard to imagine how impacts could be reduced sufficiently to become "not visually evident", the requirement for the retention VQO.

It would also be difficult to meet the RPM that calls for retention of "50-80% green" after underburning within 150 foot of each side of the road. DEIS at 43. It might not be possible to keep a fire from burning that amount of ground or more if up to 70 percent of the ground is covered with masticated chunks.

IV. CONSIDER AN ALTERNATIVE WITH DIAMETER LIMITS.

The Forest Service rejects an alternative that would establish a diameter limit, above which trees would not be cut. DEIS at 55-58. There is no question that large trees are valuable on the landscape. They are the most fire resistant, and will provide the most benefit to wildlife if they decay while standing, i. e., forming cavities for nesting and branches for roosting. They also cannot be created in a short time period; on the other hand, increasing small tree coverage can usually be accomplished relatively quickly. NSO require large diameter trees which are in short supply. According to the Table in the DEIS regarding seral stages class 4c-older trees is less than 15% in the majority of 5th field watersheds in the project area. This is also a violation of the NWFP.

Large trees are also the ones most desirable to loggers. Indeed, with the advent of railroad logging in the McCloud Flats area in the late 1800s, harvesting "large shade intolerant trees" was emphasized. (Silvi Rpt) at 35. This action "left the residual forest in a very open condition with many of the lesser than desirable species". Ibid. Much of the area has been logged since the early days.[1] Thus it would seem there is a need to conserve many of the existing large trees. Indeed, the Silviculture Report Table A-4 (p. 34) shows a solid majority of the forested acres in the medium size category, seral stage 3. A considerably smaller percentage is in the large category, seral stage 4. The FS must demonstrate compliance with the NWFP that requires all 5th field watersheds to retain at least 15% old growth. In fact, Table 55 shows noncompliance in three of the five 5th field watersheds in the project area.. The FS is currently out of compliance with this standard and this project will only worsen the situation. This is all the more reason for the FS to analyze an alternative with diameter limits. The LSRA memo states the project is in compliance with the NWFP but it clearly is not. The project calls for logging trees over 100 years old, yet old growth standards are not currently being met.

It is said that a forest that would exist as a result of application of a diameter limit would be "far from its natural

condition". DEIS at 56. But how natural is a forest that is frequently logged? Stumps and slash piles are not natural, nor are roads. Restoring a natural forest condition begins with retaining an asset that humans cannot create - large trees. The unsustainable logging in the McCloud Flats has resulted in an unnatural forest. More logging will not correct a problem the FS itself has created.

Failure to consider an alternative that included a diameter limit cap(s) violates the requirement of the CEQ Regulations implementing the National Environmental Policy Act to "rigorously explore and objectively evaluate all reasonable alternatives". 40 CFR 1502.14(a).

As discussed below, the STNF is required to work towards the recovery of the Northern spotted owl that relies on large diameter, old growth trees that provide shade for thermal regulation. By not analyzing an alternative that seeks to protect this imperiled raptor, the FS has violated the NEPA.

V. METHODOLOGY FOR TES SPECIES ANALYSIS

The DEIS states it undergoing streamlined consultation with the USFWS for this project and the draft BA fully describes the streamlined process. However, the draft BA is not available consistently for public review. The DEIS states the FS will continue the consultation process until it is completed. First, the courts have ruled the public is entitled to review information prior to a final decision. Second, the FS strongly infers biased decision-making by releasing the DEIS before the public has an opportunity to review the BA and/or FWS consultation in its entirety. Therefore, the results listed in the DEIS are arbitrary and capricious.

As of Sunday, August 20, 2017 - the day prior to the deadline for submission of comments, the draft BA was not available. The FS website is also off line for maintenance, all day, so no documents at all are available prior to submission of comments.

VI. PROTECT HABITAT FOR NORTHERN SPOTTED OWL

According to the DEIS, the methodology used to evaluate habitat conditions for NSO and Gray wolf were based in part on the 2007 existing vegetation base. That database is 10 years old and on FS lands alone over 10,000 acres have been logged in that period - not counting the thousands of acres of private timber lands that have been logged. Furthermore, stand exams were not completed. These two factors alone make the habitat analyses for TES invalid, arbitrary and capricious. The DEIS continues that acres and stand conditions are approximate;

and in some cases existing conditions are averaged across a combination of similar stands. In other words, it is all guesswork with no ground truthing as to actual habitat conditions. Differences in acreage effects exist between this analysis and other documents due to differences in methodologies employed for assessing impacts. This is completely arbitrary and capricious and does not ensure any substantive level of analysis. How is the public to know which methodology is correct? There are other "exceptions" that were made to avoid analysis yet the FS arbitrarily claims impacts won't occur because of them. The FS needs to demonstrate competence in its analyses. The public should not be expected to accept no-nothing guesswork as a substitute for a scientifically based analysis.

We also note the DEIS states that the potential for direct disturbance to NSO is measured in part on the magnitude of repeat entries of treatments and road activities, yet the DEIS failed to include a substantive cumulative effects analysis under NEPA. The measure of impacts to NSO is more than just this one proposed project, and the Environmental Baseline for the NSO is based in part on such cumulative information. The DEIS is invalid and legally indefensible.

The analysis for critical habitat is also unsuitable and inadequate. It is based on how much habitat is degraded, downgraded and removed in this project, which is appropriate. Then the analysis becomes arbitrary for the analysis measures the amount of suitable critical habitat, including dispersal habitat, projected in 30 years. The FS has no idea how much critical habitat will be available in 30 years. Climate change is occurring quickly and populations of spotted owls are declining substantially. The FS has been aggressively logging designated critical habitat since its inception and every year there is a net loss of critical habitat due in part to logging. What we know is that spotted owls need habitat NOW in order to recover and survive. Any 30-year future projection is arbitrary and cannot be relied upon in making determinations for spotted owls.

Finally, throughout the DEIS it tells the reviewer to refer to the BA for additional information which the FS acknowledges is not available to the public for review. The courts have consistently ruled against this failure to disclose information to the public prior to a final decision. Therefore, the FS must re-release the DEIS once the BA is available.

Under the proposed action, 1198 acres of northern spotted owl (NSO) foraging habitat would be treated, as would 1462 acres of dispersal habitat. DBA Table 5, p. 40. Of this, 563, 14, and 281 acres of foraging habitat would be degraded, downgraded, and removed, respectively. 975 acres of dispersal habitat would be degraded and 174 acres would be removed. DBA at 52. This is a significant portion of all remaining owl habitat in the project area (97% of foraging habitat logged of which 56% will be degraded and 22% removed; this habitat is not expected to transition back to dispersal or foraging function over the 30-year timeline. Also, 1,462 acres of dispersal habitat will be logged of which 975 acres will be degraded). See Table 32. Given that only about half (53%) of the action area is federal land, and private lands provide no habitat, the habitat existing on federal lands becomes increasingly important to spotted owls. This fact was not taken into account in any of the analyses for spotted owls.

The DEIS states there is no nesting/roosting habitat in the project area. In fact, there is only 835 acres of N/R in the entire action area or .015%. What happened to the nesting/roosting habitat in the 52,241 acre action area? Was it logged? There is no information on how the two LSRs in the project area are functioning. The DEIS did

disclose the activity centers associated with the project are far below the minimum habitat thresholds required for reproduction. Considering where these ACs are located, we know the habitat loss is due to logging and not fire. Now the FS proposes yet another timber sale that will log the little remaining owl foraging habitat in the project area. How is the STNF working to recover the NSO? What steps are being taken NOW to ensure this imperiled raptor is not extirpated from the McCloud Flats. In our view, the STNF is doing everything in its power to ensure extirpation, in violation of the ESA. The STNF always claims it can't answer these questions on a project basis, yet it continues to log owl habitat project by project inferring the answer is the FS is doing nothing to aid in the recovery of NSO now. The HWY 89 project is silent on all of the recovery actions in the Recovery Plan for NSO with the exception of RA32, which the STNF proposes not logging 8 acres of high quality foraging habitat. It is silent on how leaving 8 acres will aid in the recovery of the NSO when it is logging 97% of its foraging habitat in the project area..

There is no need to treat any of this NSO habitat. As elevation and water sources increase, there is more mixed conifer forest and more suitable NSO habitat. DBA at 21-22. The natural mixed conifer stands "have relatively high canopy cover and a full range of diameter classes". DEIS at 23. These stands are less likely to have been affected by fire suppression than lower elevation stands (and there is some question, as discussed in section I above, about how much of the latter were so affected).

If left alone, such stands could develop the complexity needed for NSO, or further develop existing complexity into nesting/roosting habitat. The project area already has some foraging and dispersal habitat. See map at DBA 128.

Under the Recovery Plan,

Restoration activities conducted near spotted owl sites should first focus on areas of younger forest less likely to be used by spotted owls and less likely to develop late-successional forest characteristics without vegetation management.

FWS, 2011, at III-17.

Under the proposed action, natural (i.e., not previously logged) trees in mixed conifer stands 10 inches in diameter and up would be thinned to as low as 125-150 square feet of basal area (BA) per acre. DEIS at 23. However, a BA of 160-220 per acre is desirable for foraging habitat. DBA at 32. In addition, higher basal areas are needed for thermal regulation by owls in both summer and winter. The DEIS is silent on this issue. Also, "commercial thinning and other conventional forestry practices" can be harmful to NSO and prey. See Revised Critical Habitat Rule, 77 Fed Reg 71882, December 4, 2012.

There is also a question of how much of the existing structure of these stands would be retained:

In general the largest and healthiest trees will be retained. [hellip]Some trees with decadence, cavities and greater than 50% cull will be retained where available for wildlife habitat.

DEIS at 23; emphasis added.

Some trees greater than 15 inches dbh with distinct traits common to older overmature trees (including large, decadent boles and limbs, cavities, and/or forked, broken or flat tops) will be retained as available unless a safety hazard.

DEIS, under "Standard Operating Procedures", p. 50; emphasis added.

Trees with character and/or decadence are very valuable to NSO and other late-successional wildlife species. All should be retained unless they are safety hazards for existing users.

Treatments in natural mixed conifer stands also include group selection cuts, i. e., creation of small openings, in up to 25 percent of a stand. DEIS at 23. The larger of these openings, 1-2 acres^[2], would be planted to pine. Id. at 24. NSO are considerably less likely to use stands dominated by pine as the FS has noted (Irwin 2003) DBA at 33. Pine should not be planted in the mixed conifer stands that have developed or are likely to develop the habitat structure used by NSO. In fact, the STNF has relied on an outdated memo from a previous Regional Forester to convert the McCloud Flats from a mixed conifer forest to a pine forest. This memo has no legal authority and is not enforceable, yet it drives virtually every timber sale in the McCloud Flats. The STNF has never done an analysis in the McCloud Flats to look at the historic percentage of mixed conifer forest compared to the percentage of pine forest today. If it did, it would find the majority of forest is now pine with the corollary of continued declining spotted owl populations.

Foraging habitat immediately adjacent to activity center ST-211 and the McCloud Managed Late Successional Area (on the northwest side of the McCloud Block) would be treated. Dispersal habitat near ST-204 (on the east side of the McCloud Block) would also be treated. The latter would include a small portion of the Algoma Late Successional Reserve (LSR). See map at DBA p. 128. The fact that there have been few recent NSO detections in these areas (DBA at 29, 30) is not a justification for treating them. They could easily be re-occupied by NSO, as the DBA admits (id. at 42).

For LSRs, the Forest Plan has the following guideline: "Silvicultural activities aimed at reducing risk shall focus

on younger stands in Late-Successional Reserves". Plan at 4-37. It is not clear if the project complies with this direction.

The Snowman's Block portion of the project area is a sizable area of mainly foraging habitat and some dispersal habitat, covering most of the block. But it appears from the map at DBA 128 that almost all of it would be treated.

Treatment, especially in natural mixed conifer stands, should not be considered acceptable because habitat function "might" return within 30 years. DBA at 56. It will not. The modelled BA 20 years after the proposed treatment is only 10 square feet per acre less than that modelled under no action. Id. at 57, Table 9. Also, thinning stands with a component of pine may cause dense regeneration of pine, which would create new ladder fuels and associated fire risk, i. e., enable a fire to reach the crowns of residual overstory trees. In any case, it is likely that the Forest Service would again propose to treat the project area. Indeed, underburning is planned every 7-15 years for three entries. DEIS at 31. Thus, any NSO habitat that redevelops or increases in quality would be at risk for degradation, downgrading, and/or elimination as a result of future treatments. Even underburning alone would prevent or retard the development of complexity in the form of down dead wood, young trees, and ground vegetation.

In any case, it is most important to protect existing NSO habitat and mixed conifer stands that could become habitat or higher quality habitat in the future.

The general rule for matrix lands, i. e., dispersal habitat, is "50-11-40", i. e., 50 percent of the stands should have an average diameter of 11 inches and the stands should have 40 percent canopy closure. It appears this requirement would not be met with the proposed treatment in dispersal habitat, as some stands would have a canopy closure of only 30 percent after treatment. DBA at 61.

Snags 15 inches and greater in diameter, and important component of NSO habitat, are already below Forest Plan standard. BE at ii, 59-60. Modelling shows snags decreasing after treatment. DEIS at 173, Tables 33 and 34. Furthermore, the LRMP is outdated on snag retention based on the Forest Service's own information. Research from the Pacific NW Forest Service Research Station eviscerates the snag retention strategies employed by the FS over the last few decades. In effect, it says is that if you want to provide 4-14 snags per acre as habitat, you have to leave at least 100 snags per acre (Lorenz et al. 2015). The STNF needs to amend its LRMP to utilize the best available scientific information regarding snag management based on Forest Service peer-reviewed scientific information.

Machine piling and burning, which could occur on 545 acres of foraging habitat (DBA at 57), would damage or destroy ground structures (understory trees, down logs, shrubs, etc.) used by NSO prey. Id. at 58. While new vegetation may fill in, the structure for prey may not be the same or as good as it was before treatment, as down logs would not be present after burning and would not appear for some time.

Fire is said to be detrimental to NSO because it destroys habitat. DBA at 23, 25. However, recent research has shown that NSO and California Spotted owls use areas of high-severity fire. See Lee and Bond, 2015; Bond et al,

2009; and Odion et al, 2014. Odion et al found that the benefits of commercial thinning to reduce the threat of high-intensity wildfire could not be greater than the detriment to NSO habitat caused by the thinning, even with an increase in the rate of wildfire. In addition, there is not any analysis for balancing current owl habitat needs versus a speculative fire that may never occur.

There is already an "overall abundance of early-seral habitats in and near the project area". DBA at 24. Thus any stands with late successional character, and those that are likely to develop such character within the next 50 years, should not be treated.

Thinning forests could increase competition from barred owls, as the latter can use a broader range of habitat. Just because they have not been detected in the project area does not mean barred owls will not arrive eventually. Indeed, "barred owls do occur on the McCloud Ranger District and may be increasing". DBA at 49; citation omitted. The barred owl has a broader diet, decreases NSO detection, and can use former NSO activity centers. It can also interbreed with NSO. DBA at 21, 42. Conserving older, more complex forests would help conserve NSO habitat and minimize interactions with barred owls. DBA at 48.

Up to 50 percent of the suitable habitat within a new NSO core or home range, or of a northern goshawk territory, could be burned in any one year. DEIS at 51. This plan is not based on any scientific information that we are aware of and indeed the science infers this would be very detrimental to owls. Any fire, even if it was low intensity and remained on the ground, could hurt these and other species in the short-term by degrading or destroying habitat for prey, such as dusky-footed wood rat, the main prey of NSO. Note that up to 22 percent of trees in all size classes are projected to die in dense mixed conifer stands with prescribed fire under the proposed action. DBA at 60, Table 10. It is not clear if this loss of 22% of all size classes was factored into the proposed remaining spotted owl habitat post project, as well as 20 years later. If not, the FS is conceding it is removing the remaining owl habitat in the analysis area and should be seeking a jeopardy opinion from the USFWS.

Smoke is a harmful stressor during the breeding season, because adults defend the nest, and thus they and juveniles are unable to easily move away from the smoke. BA at 47. It is important to limit noise- and smoke-generating activities during the season of likely use. The limited operating periods stated at DEIS p. 52 are the minimum acceptable. We recommend a LOP of Feb. 15 through Sept. 15 on the issue of smoke and noise. This is the standard LOP used on national Forests in northern California.

VII. THERE MUST BE PROTOCOL SURVEYS FOR NSO

The Forest Plan requires the following: "Survey and evaluate habitat for TE&S species at the project level in coordination with the USFWS." Plan at 4-30. However, under the Standard Operating Procedures,

NSO surveys, stand searches, or spot checks will be conducted prior to and throughout project implementation[hellip]on an annual basis, and as staffing and funding levels permit.

DEIS at 53; emphasis added. See also DBA at 28. We believe strongly that surveys, using the latest 2012 protocol, must be conducted throughout the life of the project, period. The entire analysis for spotted owls in this project is arbitrary and capricious without protocol surveys. Due to declining NSO populations of 32-55% in northern CA, as well as the presence of Barred owls, the STNF simply can't know with any certainty whether NSO are present, and if present, where they are located. Barred owls have forced NSO out of historic activity centers so considering these ACs occupied does not ensure protection of NSO. In fact, it may ensure protection of Barred owls. We have repeatedly witnessed this on the Mendocino NF where NSO protocol surveys are finding NSO outside historic ACs. The Fs should also be surveying for Barred owls as the USFWS has such a protocol yet the STNF has never used it to our knowledge.

The DEIS states protocol surveys were conducted adjacent to or within portions of the action area (not the project area) in 2014 and 2015 with spot checks in 2016 and planned for 2017. Were they completed in 2017? Regardless, this is not good enough and survey information is lacking for the project area where the project will occur. There is also no mention of the male NSO found in Elk LSR that is close enough to the Algoma LSR to be considered in this project. The FS claimed there were no owls in this LSR yet we found one and the FS confirmed it just prior to finalizing the decision for that project. The proposed surveys are for the historic ACs only and that is not sufficient as described above. The entire project area needs to be surveyed by protocol.

We also are concerned that no surveys for prey have been done. DBA at 15. Surveying for NSO prey, especially dusky-footed woodrat, would help determine if stands could be used by NSO. Areas with a moderate or greater density of woodrats should not be treated. Surveying for owl prey is recommended in the latest Recovery Plan for NSO.

NSO have used areas immediately adjacent to the project area in the past, and could easily do so again anytime in the future. Therefore, surveys are required in areas near or within any NSO habitat before any treatments are implemented there.

VIII. PROTECT SENSITIVE WILDLIFE SPECIES

Surveys for northern goshawk, fisher, and willow flycatcher will be conducted during the implementation period as staffing levels and funding permit.

DEIS at 54, emphasis added; BE at 18, et seq. As with NSO, surveys should be done regularly for these species. This is a requirement of the FS to maintain sensitive species.

Currently levels for snags at least 15 inches in diameter are at 1.1 snags per acre, below the Forest Plan standard of 1.5 per acres. BE at ii, 59-60. Actions must ensure that adequate snags are retained, as many species depend on them. We previously addressed the snag issue as not based on the BAS information and as is, the STNF is currently violating its LRMP in violation of NFMA. The FS doesn't get a get-out-of-jail card for simply using an EIS in the analysis. It must comply with its LRMP and the NFMA.

Fisher: This species needs complex forests, with snags, down wood, and multi-aged stands. The proposed treatments would tend to simplify habitat by removing trees of various sizes and/or burning understories. This could cause the loss or degradation of denning habitat (should any be found or develop), foraging and resting habitat, dispersal habitat, and reduce protective cover from predators. BE at 27. Hardwoods are more frequently selected by fisher for den and rest sites, "even if [they are] a minor component of the area". BE at 30. Black oak would be thinned under the proposed action. DEIS at 28. This thinning should not be done if the oak could develop cavities for fisher denning and resting.

The proposed treatments, especially with likely reentries, would prevent current mid-seral stands from developing into fisher habitat, and aiding in the species' recovery to full, viable populations. Treatments would also adversely affect habitat for various prey species.

Pacific marten: concerns are similar to those for fisher, discussed above. Since actions on adjacent private land are expected to downgrade or remove habitat (BE at 38), it is important to conserve habitat on national forest land and to allow new habitat to develop.

Bats: surveys for bats have not been done (BE at 41), in spite of Forest Plan direction to do so. See Plan at 4-62. Also, all 6190 acres of potential roosting habitat would be treated under the proposed action. BE at 40. Furthermore, Plan direction would not fully be met with some treatments, including group selection, WUI, and the proposed helipad. Id. at 41-42. This could result in total removal of up to 53 percent of the roosting habitat in the project area. Ibid. Hibernacula could also be removed. Id. at 43.

Pallid bats have a strong association with black oak. They especially seek cavities in broken branches. BE at 39. The proposed treatment of black oak could remove trees that have or will, if left alone, develop such cavities.

Finally, the paltry amount of habitat alleged to be left for use by NSO is the same habitat proposed for sensitive species use, yet there is no discussion of competition or how all these species are expected to meet their life needs using the same exact patches of habitat. For example, goshawks are known to prey on NSO chicks. This issue is not addressed. Once again, the STNF has virtually ignored all impacts to all wildlife species in violation of the NFMA. It fails to conduct surveys for species or ground truth habitat. It simply states, "trust us" to ensure wildlife viability - well we don't. One drive down Hwy 89 and up the Pilgrim Flat Highway demonstrates the STNF is not managing for viable wildlife populations. Mile after mile of clearcuts that have not recovered speak volumes about the habitat management in the McCloud Flats.

In every timber sale we mentioned under cumulative effects since 2004, covering over 10,000 acres, the FS has claimed that some sensitive species may be harmed but the project won't lead to listing under the ESA. How does the STNF know this when it continually fails to conduct surveys and has no idea if these species are present or not? The fact is the FS does not know. The conclusions are baseless and arbitrary and are not based on the best available scientific information. The FS loves to claim it doesn't have funds for wildlife surveys yet it always has funds to develop money-losing timber sales that result in a deficit to the Treasury.

IV. ANALYZE AND DISCLOSE CUMULATIVE IMPACTS. Given the past extensive treatments in the project area, the EIS must have a comprehensive analysis and disclosure of all cumulative impacts. The cumulative impacts for NSO are only disclosed for non-federal lands. See DBA at 77, DEIS at 185-187. This is a clear violation of the NEPA.

This does not comply with NEPA, which requires disclosure of cumulative impacts of "past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes other actions". 40 CFR 1508.7. See also 1508.25(a)(2). The EIS needs to disclose the impacts from past timber harvests and other vegetation manipulation on national forest land, as well as on state and private lands. It is important to analyze and disclose cumulative impacts to all resources, but especially to NSO and other species requiring closed-canopy forests, like fisher, marten, and goshawk.

Appendix D in the DEIS explains "our approach to cumulative effects analysis" which in short states 'we don't plan to analyze cumulative effects.' We aren't going to list all of the mindless reasons the STNF gives but we will point out one. It states "providing the details of past actions on an individual basis would not always be useful to predict cumulative effects of the proposed action or alternatives." It would indeed be useful, not to mention legally required, for the Environmental Baseline for the Northern spotted owl. This analysis is required to determine how much NSO habitat has been removed, downgraded and/or degraded. Without a cumulative effects analysis it is impossible to acquire an accurate Environmental Baseline. As is, Table Appendix D-1 estimates almost half a million acres of activities within the 5th field watershed, project area boundary, and cumulative effects boundary which is significantly small enough to be statistically meaningless.

We have been working on the STNF since 2004 and during that time, the FS has proposed logging projects in owl habitat including Edson, Porcupine, Eagle Ranch, Pilgrim, Trout Creek, Algoma, Mudflow, Elk LSR, Porcupine, Harris, Mountain Thin to name just some of the projects. All of these projects logged nesting, roosting, foraging, and/or dispersal habitat and all of them planted pine after logging mixed conifer forest. Combined they are well over 10,000 acres. Pilgrim was just completed in 2012; Algoma, Mudflow and Elk LSR are still being logged and all are in the project area. Porcupine and Harris are still being logged although they are outside the project area they are likely not providing any owl habitat due to noise and logging activity. SPI has numerous THPs in the project area none of which provide any owl habitat. In addition, the Lower McCloud Flats is being developed with an estimated draft in 2018. That project too is partially in the McCloud Flats and is in owl habitat. Private lands logging proposes another 12,200 acres that will not provide owl habitat. The proposed project is estimated to last 30 years - combined with previous project over half a million acres the cumulative effects are significant and must be disclosed. Furthermore, NEPA is stale after 5 years and attempting to rely on this analysis for a 30-year period is a violation of NEPA. Conditions and circumstances change and must be re-analyzed.

In order to understand how the STNF is managing for a threatened species proposed for uplisting to endangered, it must conduct scientifically based analyses. The FS simply can't state it is meeting its federal obligations because it says so. The STNF has no protocol surveys to ensure viability of spotted owls. It has "managed" half a million acres in the McCloud Flats and all we know for certain is that since the implementation of the LRMP, spotted owls have dramatically declined and have been completely extirpated in some areas. The one common denominator is the continued logging of their habitat.

The DEIS is incomplete without a CEA under NEPA and the FEIS must not be released until it is available for public comment prior to issuance of a draft record of decision.

X. PROTECT RIPARIAN RESERVES

Under proposed action alternative 3, all 1,310 acres of riparian reserves could be treated, and 2.2 miles of fire lines could be constructed there. DEIS at 62. Whatever treatments would be done in riparian reserves, treating every acre of them is not justifiable. Riparian reserves are also important areas for spotted owls.

If the treatment consists of allowing prescribed burns to back down into riparian areas (as would occur in the McCloud River corridor - DEIS at 25-26), there should be no need for fire line construction, as fire would burn themselves out in the moist riparian vegetation. Such construction would eliminate vegetation and could be damaging to riparian soils. These soils are usually wet, and thus are very susceptible to compaction or displacement, if fire line construction is implemented with mechanical equipment.

If the agency wants to treat any riparian areas, it must: 1) show why such treatment is needed, and 2) demonstrate that the Aquatic Conservation Strategy Objectives (ACSOs) will be met.

Under standard operating procedures, landings could be constructed in riparian reserves. DEIS at 49-50. This is absolutely unacceptable. Allowing this activity would not ensure compliance with the nine ACSOs. (See Plan at 4-53). There should be plenty of places outside of riparian areas for landings.

XI. WOLVES

Given that the size of wolf territories in California is not yet known or well understood (DBA at 35), the Forest Service must err on the side of caution in designing treatments. What we do know is the establishment of the Shasta Pack in the McCloud Flats in 2015; the established wolf use on the SMMU and nearby Modoc NF; and the establishment of the Lassen Pack in Lassen County in 2017. Wolves can travel over 30 miles per day. It's clear that gray wolves are recolonizing northern California on National Forest lands. Availability of prey, chiefly deer and elk, is one of the most important factors in wolf habitat. Ibid.

Security habitat is also important for wolves. Open road density above one mile per square mile is considered undesirable. DBA at 27, 36. Currently the open road density on in the project area is 3.11 miles per square mile. DEIS at 74. It would increase to 3.20 under the proposed action. Ibid. Some roads in the action area have high use. DBA at 36-37. In the action area the open road density is 5.35 mi/sq mi. By increasing the open road density further, rather than attempting to reduce it, the FS is doing nothing to aid the endangered wolf's viability in the McCloud Flats.

Given the high road density and moderate to high human use, the quality of habitat for wolves in the action area is probably not high. However, given the 2015 detection of the "Shasta Pack" in the McCloud Flats and the fact that wolves likely historically inhabited the STNF (DBA at 26), the Forest Service should implement wolf surveys, which so far have not been done. DBA at 30. To increase potential security habitat, unneeded roads should be closed and obliterated. The analysis for gray wolf is lacking and in violation of the NEPA.

The DEIS states that cumulative effects for the wolf were based on the 1.3 mile buffer described for NSO because it is more readily available for this bounding area. This is arbitrary considering the fact wolves can travel up to 30 miles per day. We aren't aware of NEPA permitting lax analyses due to a convenience factor for FS officials.

XII. FIGHT NOXIOUS WEEDS

Under Standard Operating Procedures, the DEIS states:

Surveys (monitoring) for invasive species will be ongoing as phases of the project are completed and will continue for up to five years after activities are completed.

Id. at 48.

This may be adequate, but surveys should be done before any ground disturbing activities occur, in addition to during and after such implementation. There are many known noxious weeds due to past logging that has never been addressed and the FS is aware of the problem. This standard language is inadequate to address this serious issue.

XIII. MINIMIZE OR ELIMINATE FUNGICIDE USE

The SOP includes direction to treat stumps over 14 inches diameter (and over 3 inches in developed recreation sites) with a chemical to reduce the spread of annosus root disease. DEIS at 50. While this is designed to kill the fungi that causes root disease, it could also kill helpful fungi, e. g., mychorryzal fungi that greatly increase tree growth and ones that help decomposition of stumps and roots of cut trees. Non-target fungi include "truffles and hypogeous fungi [which are] an important food source for many small mammals and flying squirrels". BE at 59. We recommend not using fungicides.

In addition, in the previous projects we mentioned under cumulative effects, that total over 10,000 acres, fungicide was used to allegedly reduce the spread of annosus root disease. Clearly it doesn't work. The FS should be analyzing the conversion of native mixed conifer forest to primarily pine forest, and what role pine is playing in the spread of annosus root disease.

XIV. REDUCE PILE BURNING

Burning piles of larger (than about 3 inches) diameter material is not a good practice. In addition to destroying habitat for small mammals, as discussed above, it results in a long and hot fire that damages soils by killing all microorganisms and volatilizing soil nutrients. Passes by heavy equipment to pile slash may compact or displace soil, decreasing its productivity. We recommend limiting piles, especially ones that will be burned, to small diameter material not more than about four feet high.

All burned areas must be monitored for weed introduction and spread. Areas where the burn was moderate or high in intensity may also need to be subsoiled if necessary to break up the hydrophobic soils created by a higher intensity fire.

XV. PROTECT THE MCCLOUD RIVER CORRIDOR.

It is very important to conserve the values that make this river eligible for designation as a recreational river under the Wild and Scenic Rivers Act. These include scenery and recreational opportunity. An objective under the McCloud River Coordinated Resource Management Plan (CRMP) is "maintenance of a predominantly natural appearing area". CRMP at 22. Also, the CRMP prohibits logging in riparian areas except for necessary road crossings. Id. at 23. Thus we are glad to see that no logging is proposed in the corridor, and that the only treatments proposed there are cutting (and if necessary, removal) of hazard trees and allowing prescribed fire to back into riparian areas with no fire line construction. DEIS at 25-26.

XVI. MOVE OR DELETE THE PROPOSED HELIPAD.

Twenty acres of forest would be cleared to create a helipad. DEIS at 29. This would include some large trees, 20-40 inches DBH, according to BE at 41-42. The trees to be cut are also said to be genetically valuable. DEIS at 12. Their loss is an irretrievable loss. This helipad is not needed. Mt. Shasta is only about 10 miles away and by air that is an insignificant distance. The helipad is not needed for wildfire or for human protection. We also request an economic report on the costs associated with this heli-pad.

XVII. UNAVOIDABLE ADVERSE EFFECTS AND IRRETRIEVABLE COMMITMENT OF RESOURCES.

Considering the shoddy and/or absent analyses for wildlife the FS has the gall to claim there are no unavoidable adverse effects for wildlife species with the exception to roosting bats. Bats at daytime roosts or hibernacula may be killed, displaced, or disturbed by project activities for up to 30 years. According to the FS, I guess its just too

bad for bats. Bats are primary pollinators and being lost at astounding rates to white nose syndrome, wind power development, pesticides and logging. One would think the FS would take more care in developing a project with significant impacts to bats, and at a minimum conduct population surveys. The FS then claims that LOPs will protect all the other wildlife in the project area yet concedes surveys for presence may not be conducted and the LOPs are based on the results of surveys. This is just more baseless promises made by the FS that has shockingly shown a complete callousness towards TES species on the forest.

Furthermore, this project intends to use an "adaptive management" approach to address problems as they come up for the 30-year timeframe. This approach has been found illegal by the courts.

The judge wrote that kind of "adaptive management" approach, where problems get fixed as they come up, won't work when the agency also has claimed it already had enough information to permit the whole project. "But that again ignores the fact that the Forest Service determined it had enough information to proceed with the ROD [hellip] To say that noncompliance does not matter in the face of 'adaptive management' is contrary to the evidence before the agency."

XVIII. ECONOMICS

The DEIS is incomplete for it notably failed to include an economics analysis. This is required for all federal projects that utilize taxpayer dollars. The STNF generally includes an economics section and they generally document money-losing activities causing a deficit to the Treasury. The agency can't avoid the analysis simply because it provide inconvenient news.

CONCLUSION. The proposed project is not logical or necessary as proposed. It treats many more acres than should be treated and appears to be little more than a timber grab of the remaining large diameter trees. Treatment should be mainly limited to the WUI and should stay out of NSO foraging habitat and moderate or better habitat for fisher and marten. Bat roosting habitat needs to be better protected from proposed treatments. There should be regular protocol surveys for NSO, goshawk, fisher, marten, and bat species.

Riparian reserves must be fully protected. Fungicides should not be used. The helipad should not be built in its proposed location.

An alternative that considers using diameter limits must be fully considered. A full cumulative impacts analysis must be offered to the public for comment prior to approval of any action alternative.

We also request the BA and consultation documents with the USFWS be made available to the public prior to the release of the FEIS.

Finally, this project violates the NEPA, NFMA, the LRMP, NWFP and the APA.

Please keep us on the mailing list for this project and forward any other opportunities to comment/object upon agency release.

Sincerely,

Denise Boggs, Director

[1] A large percentage of the Mt. Shasta Block is in plantations, as is a moderate percentage of the McCloud Block. See DEIS Figure A-2, p. A-5.

[2] DEIS p. 23 states that these openings "should not exceed two acres" (emphasis added), meaning they could be larger.

REFERENCES

Baker, W. L., 2014. Historical Forest Structure And Fire In Sierran Mixed-Conifer Forests Reconstructed From General Land Office Survey Data. *Ecosphere* 5(7):79. <http://dx.doi.org/10.1890/ES14-00046.1>

Bond, Monica L., Derek E. Lee, Rodney B. Siegel, James P. Ward, Jr., 2009. Habitat Use and Selection by California Spotted Owls in a Postfire Landscape. *Journal of Wildlife Management*, 73(7), 2009.

FWS, 2011. Revised Recovery Plan for the Northern Spotted Owl (*Strix occidentalis caurina*). U.S. Fish and Wildlife Service, Portland, Oregon.

Hanson, Chad T., and Dennis C. Odion, 2014. Is fire severity increasing in the Sierra Nevada, California, USA? *International Journal of Wildland Fire* 2014, 23, 1-8.

<http://dx.doi.org/10.1071/WF13016>

Lee, Derek E., and Monica L. Bond, 2015. Occupancy of California Spotted Owl sites following a large fire in the Sierra Nevada, California. Cooper Ornithological Society Volume 117, 2015, pp. 228-236. DOI: 10.1650/CONDOR-14-155.1.

Odion, Dennis C., Evan J. Frost, James R. Strittholt, Hong Jiang, Dominic A. Dellasalla, and Max A. Morath, 2004. Patterns of Fire Severity and Forest Conditions in the Western Klamath Mountains, California. Conservation Biology 18(4): 927-936, August 2004.

Odion, Dennis C., Chad T. Hanson, Dominick. A. DellaSala, William L. Baker and Monica L. Bond, 2014. Effects of Fire and Commercial Thinning on Future Habitat of the Northern Spotted Owl. Open Ecology Journal, 2014, 7, 37-51.