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PROTECTING
NATURAL
RESOURCES

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Submitted via email and comment portal at:
<https://cara.fs2c.usda.gov/Public/CommentInput?Project=60829>

Teresa Benson – Sequoia Forest Supervisor
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Sequoia National Forest/Giant Sequoia National Monument
1839 South Newcomb Street

cc: Ara Marderosian
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Porterville, CA 93257

Subject: Hume Basin Restoration Project EA Comments for SFK & SC

Sequoia ForestKeeper (SFK), the Kern-Kaweah Chapter of the Sierra Club (SC), and the Sequoia Taskforce of the Sierra Club (STF) thank you for the opportunity to provide comments regarding the draft Environmental Assessment (EA) and proposed FONSI of the subject proposal.

First we want to acknowledge and thank the Forest Service for finding a way to adjust the project without amending the Giant Sequoia National Monument (GSNM) Plan, as was considered during scoping, which would have increased the diameter limit for cutting live trees over 20 inches in diameter. As we stated in our supplemental scoping comments, while we share the goals of restoring aspen stands and protecting monarch giant sequoias from ladder fuels, we believe there was consensus that the Forest Service’s proposal to fell and remove large trees to accomplish these goals was too controversial and included a large degree of uncertainty as to whether the proposed activities could accomplish those goals.

The GSNM Plan sets diameter limits for the specific purpose of “Ecological Restoration” (p. 79, Table 46 “Management Direction for Ecological Restoration”). There, the diameter limits are clear, in setting the diameter limit at 20 inches, unless the area is within 1-2 acres of goshawk or spotted owl nest trees, in which case the limit is 6 inches. These limits should be strictly adhered to and were based on the best available scientific information from SNEP and the 2001 SNFPA and were explained in the various alternatives to the GSNM Plan in the Final EIS for the plan. See GSNM FEIS, starting at p. 70.

We are still of the opinion that the Forest Service should have considered alternatives in line with the GSNM Plan’s requirements to consider prescribed burning or felling without removal, as it has done in the past. This is also consistent with work by the National Park Service in the adjoining Sequoia-Kings Canyon National Park where the Park Service limits fuel reduction prescriptions to only cut live trees approximately 8-10 inches dbh based on a tree height of no more than 40 feet in groves and other areas in SEKI. The only larger trees that the Park Service

generally cut are both dead and pose a potential hazard to visitors because they are leaning towards trails or roads. According to the Park Service, with regard to larger live trees, they only cut limb up the tree where they may act as fuel ladders. In fact, as discussed in our scoping comments, a recent NPS prescription for fuels management in the Big Stump Grove area near the Grant Grove Entrance Station accomplished fuel reduction goals without tree removal and was effective in reducing the risk of wildfires that may threaten giant sequoias and other areas under most fire weather conditions, according to the Park Service.

EA COMMENTS

1. The EA should be redone to analyze a reasonable range of alternatives by considering and analyzing two additional alternatives we suggested, to comply with NEPA and the GSNM Plan's Decision Tree.

In our scoping comments, we implored the Forest Service to consider and analyze alternatives to the proposed actions, and as required by NEPA, which adhere to the GSNM Plan's Decision Tree to implement restoration activities, 1) using prescribed burning only, and 2) by using mechanical treatments without removal, cutting only trees up to 12 inch diameter trees. *See* GSNM Plan, p. 82-84; SFK-SC Scoping Comments & Supplemental Scoping Comments.

But the EA simply states that the prescribed burn-only alternative “was eliminated from further study because it was already considered and documented in the Clear Need Determination that was sent with the scoping letter.” There is no further discussion anywhere in the EA about considering an alternative that would cut only trees up to 12 inches in diameter without removing them.

We aver that the Purpose and Need for the project has been too narrowly written to eliminate reasonable alternatives to the proposed action because it was biased by the Forest Service's advanced “Clear Need Determination” during scoping, and therefore foreclosed the consideration of these two reasonable alternatives, which have previously been considered in other projects. In fact, the Sequoia National Forest actually chose each of these reasonable alternatives as the final action in two previous projects:

- **The Boulder Creek Fuels Restoration (Boulder) Project** – Hume Lake RD (prescribed fire only) (*see* Exhibits A & B, Boulder EA & DN), and
- **The Tule River Reservation Protection Project (TRRPP)** – Western Divide RD (12-inch diameter cutting without removal) (*see* Exhibits C & D, TRRPP FEIS & ROD).

In both of these projects, the Forest Service acknowledged that it could meet the purpose and need of restoration and fuel reduction using only the preferred methods in the GSNM Plan's Decision Tree without tree removal, and both project areas included treatment areas in and around Giant Sequoia groves. *See* Exh. A – Boulder DN, p. 2-3 of 11; Exh. C – TRRPP ROD, p. 4-5 of 19. “One obvious way for an agency to slip past the strictures of NEPA is to contrive a purpose and need so slender as to define competing reasonable alternatives out of consideration.” *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 814 n.7 (9th Cir. 1999). Here, the purpose and need is defined in such a way that only the proposed action can meet it.

By contrast, the purpose and need in the Sequoia National Forests' previous Boulder and TRRPP projects, while expressing the same goals of fuel reduction or restoration in and around Giant Sequoia groves, was broad enough to actually allow the consideration and analysis of the preferred methods in the GSNM Plan Decision Tree. The "touchstone" of a lawful alternative's analysis is whether the agency's "selection and discussion of alternatives fosters informed decisionmaking and informed public participation." *Westlands Water Dist. v. U.S. Dept. of Interior*, 376 F.3d 853, 872 (9th Cir. 2004). Federal agencies must "[r]igorously explore and objectively evaluate all reasonable alternatives to a proposed project." *Center for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1217 (9th Cir. 2008).

The Sequoia National Forest needs redo its EA and consider the two reasonable alternatives it has previously considered (and has even chosen as its final actions), and as we have suggested in our scoping comments. They must be considered and analyzed in detail for the Hume Basin project. And given the fact that implementation of this project is not envisioned until 2024, there should be plenty of time to finish such an analysis, which will fosters informed decisionmaking.

2. Prescription for AMEX Research Treatments should specify that it must meet the required 20-inch diameter limits from the GSNM Plan.

The EA briefly discusses the University of Nevada Reno's Sierra Nevada Adaptive Management Experiments (AMEX) treatments, to "study on a small portion of the plantations planned for thinning. One or more of the four core treatments will be used to study resilience, resistance, or transition of forests under climate change and associated stressors. Treatments include thinning from below and use of mastication or herbicide for fuels reduction (Appendix D of the Silviculture Report contains a summary of the research prescription)." EA, p. 4. But Appendix D of the Silviculture Report only specifies implementation standards based on basal area that result after thinning treatments. In addition to basal area, the specified standards for research treatments must explicitly state that they will meet all GSNM Plan standards, and explicitly the 20 inch diameter limit for tree felling.

3. The EA states, incorrectly, that there are no known spotted owl nests in the project area, which should be corrected.

The EA is in error in asserting that "[t]here are no known spotted owl nest sites ... in the project area." EA, p. 37. As we stated in our scoping comments, there are several spotted owl and gowhawk PACs and HCRAs, as documented in the GSNM plan and associated maps. *See* GSNM Plan Map B. And, according to my conversation with Marianne Emmendorfer on April 14, 2023, this is an error, since she acknowledged that there are documented spotted owl nest sites in the project area. Please correct this statement and discuss the effects from the project on spotted owls in this section of the EA.

4. California Spotted owls are now a species proposed for listing as threatened under the ESA, and the EA must include an analysis based on the proposed listing status.

Again, the EA is in error by not including the California spotted owl under the heading “*Threatened, Endangered, Proposed Species and Critical Habitat*” and stating that “No other threatened, endangered, proposed species or designated critical habitat exist in the project area.” EA, p. 37. Moreover, the EA should discuss any conference with U.S. Fish and Wildlife Service with regard to the “proposed” status, as required by the ESA Consultation Regulations. *See* 50 CFR § 402.01.

Moreover, the Biological Assessment (BA) must be updated to include a specific analysis that shows that the proposed actions will not jeopardize the California spotted owl, since “This Biological Assessment analyzes the potential effects of the Hume Basin Restoration Project on federally endangered, threatened, and proposed species.” Hume Basin BA Summary, p. 1 (emphasis added).

5. The BA should clarify its statements regarding proposed critical habitat for Pacific fishers and whether the proposed actions could adversely modify that habitat.

While the BA is correct that “There is no designated critical habitat within or adjacent to the project area” because USFWS has not yet done its final designation, it avers that “A portion of the project area overlaps with proposed critical habitat for fishers.” BA, p. 2 of 32; *see also* p. 7 of 32 (“Critical habitat for the Southern Sierra Nevada DPS was proposed by the USFWS in November 2021 (FWS–R8–ES–2021–0060). In their proposal “Unit 3 North Sequoia” overlaps with a large portion of the Hume Lake Ranger District. In November 2022 the USFWS published revisions to their proposal, adding additional areas for all the units (87 FR 66987). ... The overlap between proposed critical habitat and this project is shown in Map 5.)”

Map 5 clearly shows that overlap, yet there is no further discussion in the BA or EA as to whether the proposed actions could potentially adversely modify any of the fisher’s proposed critical habitat. This analysis should be updated when adding the discussion about the California spotted owls to the BA, and the Forest Service should also confer with USFWS regarding proposed critical habitat effects as required in 50 CFR § 402.01.

6. The Carbon Analysis should include totals of the average and percentage amounts of carbon effects in its analysis and provide a totals of potential carbon emissions.

Thank you for providing a detailed analysis of average carbon releases/sequestration by acres in Tables 17 & 18 of the EA. As we discussed on the phone, however, this only provides a limited picture of the effects on carbon because we do not know in the tables how many acres are being affected. My suggestion is to add two more columns to Table 17, which provide the total acres for each row (additional column), and then the total tons of “Total Stand Carbon” in tons for each row (additional column), which multiplies the average tons/acre by the acres treated.

Moreover, it would also be useful to include additional rows for each of the broad treatment areas, since from a carbon accounting standpoint, the next 20 years are the most crucial if we are going to try avert the worst effects from climate change. So I would suggest adding a row for the year 2041 for each of the area types with associated data.

In other words, it would look something like this (without those numbers filled in):

Year by Action/No Action	Carbon in Trees over 4.5 Inches Diameter (Average tons/acre)	Carbon in Snags (Average tons/acre)	Total Stand Carbon ^a (average tons/acre)	Acres	Total Stand Carbon (average tons/acre x acres)
2021 Plantations	16.2	3.5	32.7	?	
2041 Plantations	?	?	?	?	
2071 Plantations No Action	21.8	6.5	61.9	?	
2071 Plantations Proposed Action	27.8	4.6	62.9	?	
2021 Bearskin Grove	61.1	11.6	130.1	?	
2041 Bearskin Grove	?	?	?	?	
2071 No Action-Bearskin	33.8	16.5	93.3	?	
2071 Proposed Action Bearskin	75.2	5.6	131.6	?	
[continue for each area type]					
[additional rows omitted]					

7. Does Table 19 overstate Wildfire emissions? and considering newer scientific studies.

With regard to Table 19, I would urge you to consider the following scientific studies regarding Wildfire emissions, since the numbers in tons/acre in the table appear higher than expected, and then consider adjusting those numbers.

A good place to start is a relatively short 6-page compilation, with citations, of the most recent science, titled "Status of Science Forest Carbon Management to Mitigate Climate Change and Protect Water and Biodiversity, March 9, 2022" (Exhibit E), which was issued by some of the most prominent forest carbon researchers in the U.S. Here are snippets from the compilation related to this issue:

While moderate to high severity fire can kill trees, most of the carbon remains in the forest as dead wood and it will take decades to centuries to decompose that wood. Less than 10% of the total ecosystem carbon in live and dead trees, litter, and soils combined has been found to enter the atmosphere as carbon dioxide in Pacific Northwest forest fires (Campbell et al. 2011, Law & Waring 2015). Recent field studies of combustion rates in California's large megafires show that carbon emissions were very low overall at the stand- (0.1-3.2%) and landscape-level (0.6-1.8%) because larger trees with low combustion rates comprise the majority of biomass and high severity fire patches are less than half of the area burned (Stenzel et al. 2019, Harmon et al. 2022). *See p. 4.*

The amount of carbon removed by thinning is much larger than the amount that might be saved from being burned in a fire, and far more area is harvested than would actually burn (Mitchell et al. 2009, Rhodes et al. 2009, Law & Harmon 2011, Campbell et al. 2011, Hudiburg et al. 2011, Hudiburg et al. 2013). Most analyses of mid- to long-term thinning impacts on forest structure and carbon storage show there is a multi-decadal biomass carbon deficit following moderate to heavy thinning (Zhou et al. 2013). A thinning study in a young ponderosa pine plantation vulnerable to drought in Idaho found that removal of 40% of the live biomass from the forest would subsequently release about 60% of that carbon over the next 30 years (Stenzel et al. 2021). Although thinning is commonly used to reduce fire severity and associated tree mortality, a comparison of thinned with adjacent unthinned stands in the burn area of a large California wildfire showed that thinning resulted in more tree mortality than unthinned stands, i.e. fire killed more trees than thinning prevented from being killed (Hanson 2022). *See p. 4.*

I've attached the Harmon et al. 2022 study (Exhibit F) referenced in the first paragraph above, which provides the data and methodology used for determining the low (less than 1.8 and 3.2%) overall carbon emissions from wildfires.

Also attached is the Mitchell et al. 2009 study (Exhibit G), which cautions that "reducing the fraction by which C is lost in a wildfire requires the removal of a much greater amount of C, since most of the C stored in forest biomass (stem wood, branches, coarse woody debris) remains unconsumed even by high-severity wildfires. For this reason, all of the fuel reduction treatments simulated for the west Cascades and Coast Range ecosystems as well as most of the treatments simulated for the east Cascades resulted in a reduced mean stand C storage." *See abstract*; see also Depro et al. (2008) ("Our analysis found that a "no timber harvest" scenario eliminating harvests on public lands would result in an annual increase of 17–29 million metric tonnes of carbon (MMTC) per year between 2010 and 2050—as much as a 43% increase over current sequestration levels on public timberlands and would offset up to 1.5% of total U.S. GHG emissions. In contrast, moving to a more intense harvesting policy similar to that which prevailed in the 1980s may result in annual carbon losses of 27–35 MMTC per year between 2010 and 2050.") (Exhibit H).

The Campbell et al. 2011 (Exhibit I) analysis also "reveals high C losses associated with fuel treatment, only modest differences in the combustive losses associated with high-severity fire and the low-severity fire that fuel treatment is meant to encourage, and a low likelihood that treated forests will be exposed to fire." There are also local Sierra Nevada forest analyses of cumulative carbon losses, comparing tree loss from thinning compared to loss from two fires. *See Baker & Hanson 2022 & Hanson 2022 (Exhibits J & K).*

Please reconsider the release amounts from wildfires, considering these studies, which may also affect the estimated calculations provided in Tables 17 & 18.

8. Where are the AMEX and thin/sanitation units on the Appendix A map?

It is difficult to differentiate the various shades of orange and yellow colors on the map in Appendix A. To better illustrate the locations on the map, we urge you to provide more distinct colors for the various “thinning” treatments.

9. The KNP Complex Fire is mentioned in Appendix B, but there is nothing to reflect where it burned into the project area in the Map in Appendix A.

We urge you to show an overlap onto the Appendix A map, which shows where the KNP Complex Fire burned into the project area. Also, although the fire appeared to have burned at low severity, please explain whether it affected fuel loads and whether the Sequoia National Forest decided to change treatments based on the effects of the fire.

10. The Proposed FONSI is incomplete and inadequate and must be updated.

There can be no question that the proposed action will have some adverse effects on the environment. But the proposed FONSI, under item 2 on p. 35, does not include any mention of adverse effects to wildlife habitat, soils, water quality, or visitor access or noise during implementation. The FONSI must not only consider these adverse effects, but also determine whether they are significant, which has not been done. It is therefore incomplete and inadequate.

The FONSI also does not consider, disclose, or analyze the potential adverse effects on public health and safety from implementing the project under item 3. As we discussed in our scoping comments, published, peer-reviewed scientific findings suggest that thinning and fuel reduction logging can be ineffective and can even increase fire severity and rate of fire spread.

A study of the Creek Fire Area, which we discussed with regard to the ineffectiveness of thinning to reduce fire severity found that thinning can actually increase fire severity under severe fire weather conditions. That study “found that pre-fire snag density was not correlated with burn severity, but fuel-reduction logging was associated with higher fire severity.” Hanson 2021, Summary (Exhibit 4, attached). This potential for higher fire severity and fire spread also implicates public safety, since under severe fire weather conditions it could decrease the time to the people have to escape a fire, which affects both the public and agency personnel. The project analysis must disclose this scientific finding and the scientific uncertainty and controversy surrounding thinning, fuel reduction, and fire behavior, and it must recognize that vegetation treatments, such as those proposed, could increase fire severity and fire spread in the Hume Basin Project area under certain conditions. Based on these scientific findings, the Hume Basin Project’s actions may be significant, and the Forest Service must disclose and discuss this potential for significant effects in its FONSI.

Finally, the FONSI paints the short- and long-term effects as only beneficial; whereas, the potential short- and long-term effects from any logging project, including one that’s intended as a restoration project, could exacerbate the climate crisis by cumulatively releasing more carbon into the atmosphere from the proposed actions and other actions. In order to adequately consider the significance of these effects, the FONSI must include a rigorous discussion and analysis of the issue, which is completely lacking.

For Sequoia ForestKeeper, the Kern-Kaweah Chapter of the Sierra Club, and the Sequoia Taskforce of Sierra Club,

Sincerely,

A handwritten signature in blue ink, appearing to read "René Voss". The signature is fluid and cursive, with a long horizontal stroke at the end.

René Voss – Attorney at Law