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PROTECTING NATURAL RESOURCES

October 22, 2021 **Submitted to: comments-pacificsouthwest-sequoia@usda.gov**

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cc: Ara Marderosian
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Subject: Hume Basin Restoration Project Scoping Comments for SFK & SC

Sequoia ForestKeeper (SFK) and the Kern-Kaweah Chapter of the Sierra Club (SC) thank you for the opportunity to comment on the subject proposal. SFK and SC have been involved in the protection of the Sequoia National Forest and the Giant Sequoia National Monument for many decades and consider the subject proposal a significant action that could have many adverse and a few positive effects on the forest's ecosystems, the Monument objects and values, including three Giant Sequoia groves and the wildlife that depend on the forest habitats of the Sequoia, especially the endangered Pacific fisher. Due to the size, scope, and potential adverse effects we believe that the Forest Service must prepare an Environmental Impact Statement under NEPA.

Request for New Field Trip and Additional Scoping Thereafter

We were looking forward to the October 15, 2021, field trip, and we thank you for offering and arranging this opportunity to learn more about this important action and provide input and feedback in the field. However, due to area closures and the KNP Complex Fire, which burned partially into the southern portions of the project area, the field trip was cancelled.

We request and urge you to reschedule a field trip as soon as practical to allow us and the public to gain greater insight about the actions and scope of the project and to encourage a dialog so that any actions are well-informed and produce the best possible outcomes. If the field trip cannot be rescheduled for this fall and must be delayed until the spring, the process and analysis should also be delayed before the Forest Service commits to actions that reduce the public's ability to provide reasonable alternatives, which it must consider.

Additional opportunities for scoping input should follow the new field trip. We will likely provide additional comments to supplement these comments due to the large scope of the proposed actions, and we request that the Forest Service consider those with these initial scoping comments. At this point we do not have sufficient information after the cancelled field trip to provide informed comments regarding the specific actions and the scope of the project, especially with regard to the Giant Sequoia Groves and habitat needs for the Pacific fisher, California spotted owl, and northern goshawk.

Background and Description of Proposal

Based on our initial review, the proposed Hume Basin project area consists of most of the unburned area east of the Grant Grove area of Kings Canyon National Park to the north of Generals Highway, the area east of Hwy 180, the area northwest of the road that accesses Buck Rock, and within the unburned perimeter of the Rough Fire on the west and north, although it also includes a few areas burned in the Rough Fire. The area includes many old logging units, plantations, many miles of old logging roads, and significantly, three Giant Sequoia groves proposed for vegetation treatments: Bearskin, Landslide, and Indian Basin. The area is also within Core 3 of the Southern Sierra Fisher Conservation Area and likely contains critical habitat for the fisher.

According to the September 21, 2021, scoping letter, the Forest Service proposes to "improve forest health, wildlife habitat, and reduce fuels build-up from the extensive pockets of drought, fire, and insect-killed trees." It proposes to achieve these goals using substantial vegetation management treatments on 6,702 acres, including thinning, biomass removal, mastication, roadside hazard tree logging, prescribed burning, pile burning, and various associated follow-up treatments, both in and outside Giant Sequoia Groves. The actions would include substantial removal of trees and other vegetation from the Monument via logging, biomass removal (and subsequent burning), and on-site pile and broadcast burning.

The proposal also includes a proposal to decommission 8.1 miles of old logging roads, which we strongly support, although we urge the Forest Service to include additional roads segments to the proposal, which we hope to discuss in supplemental comments.

COMMENTS

SFK and SC urge you to consider the following specific comments, but also request that you provide an additional comment period after a rescheduled field trip.

Because the proposed actions would result in significant adverse effects on soils, wildlife, recreation, aesthetic resources, and proposes to remove many thousands of trees from the Giant Sequoia National Monument, the Forest Service must prepare an Environmental Impact Statement (EIS).

Unproven assertions in the proposal suggest that removing dead and dying trees, combined with restoration efforts, would re-establish healthy forest conditions that provide wildlife habitat. The proposal also asserts, without support, that restored conditions would be more resilient to drought, insect/disease outbreaks, and high-severity fire.

1. Recent Scientific Findings Suggest that Thinning and Fuel Reduction Ineffective, and can even Increase Fire Severity

A research report by Omi and Martinson (2002) (Exhibit C) found that "[e]vidence of fuel treatment efficacy for reducing wildfire damages is largely restricted to anecdotal observations and simulations." In fact, there is scientific evidence that thinning can make the fuel hazard

worse instead of better. Graham et al. (2004) noted that "[d]etailed site-specific data on anything beyond basic forest structure and fuel properties are rare, limiting our analytical capability to prescribe management actions to achieve desired conditions for altering fuels and fire hazard." Further, thinning can alter the heating of the understory and subsequently reduce moisture levels:

> Thinning opens stands to greater solar radiation and wind movement, resulting in warmer temperatures and drier fuels throughout the fire season.
>
> [T]his openness can encourage a surface fire to spread…Opening up closed forests through selective logging can accelerate the spread of fire through them because a physical principle of combustion is that reducing the bulk density of potential fuel increases the velocity of the combustion reaction. Wind can flow more rapidly through the flaming zone. Thinned stands have more sun exposure in the understory, and a warmer microclimate, which facilitates fire (Countryman 1955)…
>
> [F]uel reduction activities – particularly mechanized treatments – inevitably function to disturb soils and promote the invasion and establishment of non- native species. Pile burned areas associated with the treatments are also prone to invasion (Korb et al. 2004). Annual grasses can invade treated areas if light levels are high enough, leading to increased likelihood of ignition, and more rapid spread of fire, which can further favor annual grasses (Mack and D'Antonio 1998). This type of feedback loop following the establishment of non-native plants may result in an altered fire regime for an impacted region, requiring extensive (and expensive) remedial action by land managers (Brooks et al. 2004).

Odion (2004).

The authors of a study that analyzed fires in thinned and unthinned areas in Sierra Nevada forests noted: "Thinned areas predominantly burned at high severity, while unthinned areas burned predominantly at low and moderate severity…. [C]ombined mortality was higher in thinned than in unthinned units." Hanson and Odion 2006 (Exhibit D).

Hanson and Odion (2006) went on to suggest that mechanical thinning may have "effectively lowered the fire weather threshold necessary for high severity fire occurrence." Furthermore, researchers with the U.S. Forest Service acknowledge the potential for thinning to create more intense conditions for surface fire spread:

> Theoretically, fuel treatments have the potential to exacerbate fire behavior. Crown fuel reduction exposes surface fuels to increased solar radiation, which would be expected to lower fuel moisture content and promote production of fine herbaceous fuels. Surface fuels may also be exposed to intensified wind fields, accelerating both desiccation and heat transfer.
>
> Treatments that include prescribed burning will increase nutrient availability and further stimulate production of fuels with high surface-area- to-volume ratios. All these factors

> facilitate the combustion process, increase rates of heat release, and intensify surface fire behavior….
>
> Thus, treatments that reduce canopy fuels increase and decrease fire hazard simultaneously. With little empirical evidence and an infant crown fire theory, fuel treatment practitioners have gambled that a reduction in crown fuels outweighs any increase in surface fire hazard….

Omi and Martinson 2002 (Exhibit C).

A recent study also found that protected forests (those with more restrictions on logging activities such as those in the Proposed Action) had lower fire severity levels over a 30-year period (and across 1,500 fires), but they actually had *lower* fire severity levels despite being identified as having increased biomass and fuel loading compared to less-protected forests with more logging activities. Bradley et al. 2016 (Exhibit E).

Finally, a recent analysis of burn severity after the Creek and Castle Fires on the Sierra and Sequoia National Forests "found that more intensive forest management was correlated to higher fire severity," meaning areas that had been thinned for fuel reduction burned at a higher severity than natural areas that had not been thinned:

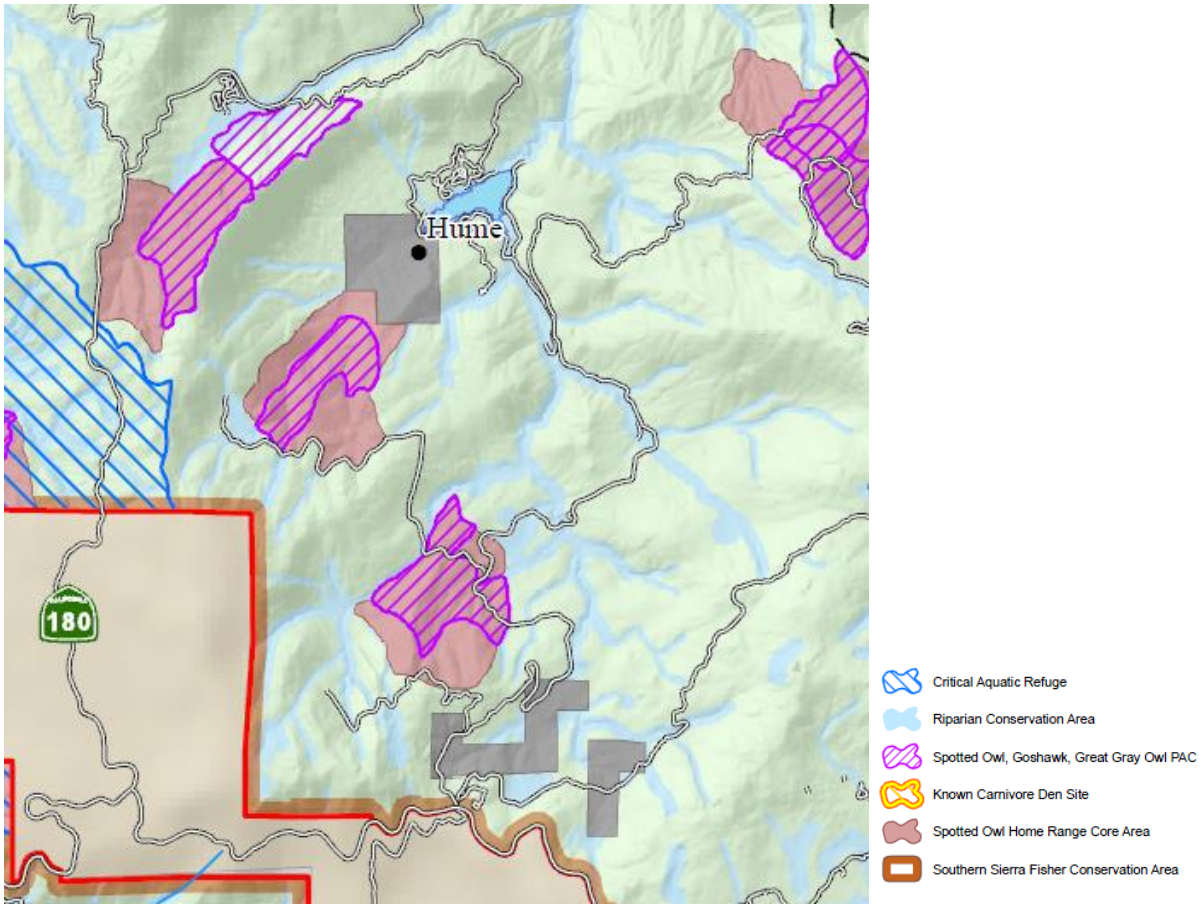
> [F]uel-reduction logging in California spotted owl habitat was associated with higher fire severity, while unlogged forests with the highest pre-fire snag densities, and unlogged forests that had not experienced wildfire in over a century, had the lowest levels of high-severity fire. These results refute the fuels-reduction hypothesis, but are consistent with other recent research indicating that forests with fewer environmental protections and more tree removal tend to burn more severely [27], and research concluding that forests with post-fire logging and artificial tree planting burn more severely than burned forests with no post-fire logging and no tree planting [28].

Hanson 2021 (Exhibit F, in print).

The project analysis must disclose the scientific uncertainty and controversy surrounding thinning, fuel reduction, and fire behavior and should recognize that vegetation treatments.

2. The proposed actions will likely harm the endangered Pacific fisher, spotted owls, and goshawks.

The proposed treatment areas contain significant wildlife areas, including spotted owl and goshawk PACs, and Pacific fisher habitat that could be harmed by proposed logging and other vegetation treatments. The GSNM Plan Map B, pasted below, shows some of these habitat areas within the project area:



Moreover, the entire project area is within the Southern Sierra Fisher Conservation Area, and because the fisher is listed under the ESA as endangered, additional restrictions apply. The proposed actions must strictly apply the wildlife restrictions and sufficiently analyze potential adverse effects on these and other species. Because the effects from the proposed tree felling and removal activities, the related hazard tree proposal along roads, combined with the changed baseline environmental effects from the fires, are significant, the Forest Service must prepare an EIS and consider a full range of alternatives that minimize adverse effects.

3. <u>Use of previously used skid roads and temporary road construction is inconsistent with ecological restoration and should not be allowed.</u>

The proposal states that "Previously used skid roads and temporary roads may also be reused and reclosed." Even temporary roads and skid roads cause adverse soil impacts, including erosion from greater runoff and cause permanent irreversible and permanent damage to soils, wildlife habitat, and adversely affect watersheds. Roads also increase the risk and severity of fires by opening more forest edges that dry and heat the forest; allow more human-intrusions deep into the forest resulting in human-caused ignitions.

> Accelerated surface erosion from roads is typically greatest within the first years following construction, although in most situations sediment production remains elevated over the life of a road (Furniss et al. 1991; Ketcheson & Megahan 1996). Thus, even

> "temporary" roads can have enduring effects on aquatic systems. Similarly, major reconstruction of unused roads can increase erosion for several years and potentially reverse reductions in sediment yields that occurred with disuse (Potyondy et al. 1991).
>
> * * *
>
> Finally, road and landing construction is expensive and can siphon limited funds away from effective restoration measures, such as obliteration and maintenance. The backlog in maintenance of U.S Forest Service roads has been estimated to be several billion dollars (U.S. Department of Agriculture Forest Service 2000), and road construction inevitably adds to this seemingly insurmountable backlog. *For these reasons, the construction and reconstruction of roads and landings is not consistent with postfire ecosystem restoration.*

Beschta et al. (2004) (Exhibit I) (emphasis added).

The science cannot be more clear that even temporary and skid road construction should be prohibited, especially in areas that have burned and is inherently inconsistent with ecological restoration.

4. <u>The Forest Service must prepare an Environmental Impact Statement (EIS) because the proposal is likely to have significant impacts.</u>

The Forest Service must prepare and EIS because it implicates several of NEPA's intensity factors, including effects on endangered SSN fishers, sensitive California spotted owls and northern goshawks, public safety, the highly controversial nature of the proposal, and it would set a precedent for this type of restoration action in the GSNM. Together, these factors suggest that the proposed actions will cause significant effects on the environment, requiring preparation of an EIS.

The size of the proposed actions and the likely large number of trees proposed to be removed from the project area are on a similar scale as the largest timber sale operations implemented on the Sequoia National Forest in decades. Hence, the project likely constitutes a major federal action that would require analysis in an Environmental Impact Statement (EIS).

For example, the Forest Service prepared an EIS for the Tobias Ecosystem Restoration Project, which was actually smaller in scale than the proposed Hume Basin Restoration Project. *See* Tobias DEIS pages (Exhibit A, Summary). The Tobias project included thinning and fuel reduction on 4,900 acres (*id.*), whereas the Hume project would treat vegetation on 6,702 acres.

An EIS is also required to consider the cumulative effects on the endangered fisher. The various vegetation management actions after the Rough Fire likely had negative effects on the endangered Pacific fisher population in the project area. The fire and the proposed action (and any action alternatives) are likely to have significant direct, indirect, and cumulative effects on the fisher population, as well as the fisher's ability to disperse or move through a fragmented fire and project area.

In similar circumstances, the Forest Service found that the combination of the Rancheria Project and the Cedar Fire in the Greenhorn Mountains of the Sequoia National Forest may constitute significant effects acknowledging that it needed to supplement its NEPA analysis. In its Supplemental Information Report (SIR), the Forest Supervisor found that "the habitat fragmentation and loss of connectivity caused by the Cedar Fire occurred after the 2013 Fisher BE was completed. These changes may be significant and alter the original determination for this project that the Rancheria Project 'may affect individuals, but is not likely to contribute to the need for Federal listing or result in loss of viability of fisher…. Therefore, in accordance with FSH 1909.15 Section 18.4, it is my determination that supplemental NEPA analysis must be prepared ….' " SIR, p. 12 (Exhibit B, attached).

The Forest Service has recognized the significance of fragmentation and loss of connectivity caused by a fire in combination with the Rancheria logging project, which was actually smaller than the current proposal when combined with the 6,702 acres of activities proposed within the Hume Basin project area.

Moreover, the proposed thinning and fuel reduction treatments are highly controversial, scientifically, as discuss above, and likely to adversely affect public safety and increase rather than reduce fuels and associated wildfire risk, as discussed above.

5. <u>In areas burned by the Rough and recent KNP Complex Fires, the proposal must be consistent with the Ecological Restoration provisions in the GSNM Plan and those expressed in the SAB Advisories & in the GSNM FEIS Chapter 4, pp. 392-408</u>.

    a. These fires have accomplished several of the strategies for ecological restoration in the GSNM Plan, pp. 46-47 (Table 10)

Table 10, Strategy #13 states: "Promote resiliency in Monument ecosystems by using the following tools, in order of priority: managed wildfire (when available), prescribed fire, mechanical treatment. (1)" Note (1): "Consistent with the Decision Tree narrative (pp. 82-84), whenever naturally-ignited wildfires occur and are available to manage for resource benefits, those managed wildfires will be used first for ecological restoration." The Rough and KNP Complex Fires essentially achieved this resiliency strategy, which burned as a naturally-ignited wildfire. For those reasons, the burned areas should not be further treated.

Strategy #10 states: "Encourage natural regeneration of tree species, including giant sequoia. In areas where natural regeneration is not likely, use planting as determined in site-specific project analysis." It is too early to tell whether natural regeneration is "not likely" in the KNP Complex fire area. And planting should not be proposed until the site-specific project analysis has made such a determination. It will likely take at least two growing seasons to adequately analyze whether natural regeneration is unlikely. So it would be premature to move forward with planting and associated activities until this analysis is completed.

    b. There is nothing in the ecological restoration strategy (Table 10) or anywhere else in the plan about post-fire logging for restoration.

None of the other strategies in Table 10 apply to a post-fire area, since fuels have been reduced substantially from the fire itself, and the other strategies do not apply. Moreover, there is nothing in the entire GSNM Plan that authorizes the felling and removal of trees in support of planting. Instead, the restrictions with regard to felling and removal of trees unless "clearly needed" provide sufficient standards to restrict these activities for ecological restoration.

c. Under Fire & Fuels, ecological restoration strategies have been met (GSNM Plan, pp. 49-49, Table 19.

Strategy #9 states: "Manage some high-intensity fires on a limited basis and tolerate relatively high mortality to reduce fuels or to improve the diversity of vegetation and habitat characteristics in the Monument.") According to the BAER report, high burn severity was only 6%, which is consistent with this strategy to reduce fuels. The RAVG data likely also supports this strategy, which sometimes overstates the amount of high mortality, but that is acceptable here as high intensity burn severity is meant to be tolerated.

Strategy #7 states: "Restore fuel conditions to allow fire to burn in its characteristic pattern and allow fire to resume its ecological role." The fire has likely also played its role to meet this strategy, since it burned in a mosaic pattern and characteristic, to create ecologically-needed diverse habitats.

The fire likely also achieved the goal in Strategy #10 by reducing fuels in the WUI defense and threat zones, giant sequoia groves, and old forest emphasis areas.

d. Meet the requirements of GSNM, p. 79, Table 46 for old forest emphasis areas, owl & goshawk PACs, sequoia groves, and avoid carnivore den sites

There are no exceptions to restrictions and diameter limits in Table 46 for ecological restoration with regard to burned trees, and those limits must be strictly adhered-to. Given the many owl and goshawk PACs, sequoia groves, and carnivore den sites, the avoidance and six inch diameter limits must be carefully applied, if any tree felling or removal can be justified, at all, given the "clearly needed" standard.

6. <u>In the areas of the Rough and KNP Complex Fires, post-fire tree removal is not "clearly needed" for ecological restoration, under the GSNM Proclamation & GSNM Plan because tree felling and removal would set back natural regeneration/restoration for decades</u>.

Felling trees and using heavy equipment to remove trees will harm seedlings that are trying to naturally re-establish in burned areas, and would remove the shade needed for these seedling trees to retain moisture and reestablish naturally.

There is no justification provided in the GSNM Plan or the Monument Proclamation for removing dead or dying trees from the Monument for ecological restoration after a fire, especially as proposed here, in order to assist in reestablishing seedlings and reforestation. In fact, removal of trees using mechanical methods will likely hinder natural ecological restoration

both in the short- and the long-term. For those reasons, the felling and/or removal of dead or dying trees is not "clearly needed" for ecological restoration or maintenance.

An analysis of regeneration and post-fire logging after the Biscuit Fire in southern Oregon found that post-fire logging had significant adverse effects on natural seedling regeneration and restoration:

> Natural conifer regeneration on sites that experienced high-severity fire was variable but generally abundant, with a median stocking density of 767 seedlings per hectare, primarily of Douglas-fir (*Pseudotsuga menziesii*) (Fig. 1A). Such density exceeds regional standards for fully stocked sites, suggesting that active reforestation efforts may be unnecessary. *Postfire logging subsequently reduced regeneration by 71%, to 224 seedlings per hectare (Fig. 1A), due to soil disturbance and physical burial by woody material during logging operations. Thus, if postfire logging is conducted in part to facilitate reforestation, replanting could result in no net gain in early conifer establishment.*

Donato et al. (2006) (Exhibit G) (emphasis added). To make matters worse, Donato found that "Postfire logging significantly increased both fine and coarse downed woody fuel loads," and that follow-up treatments to deal with these fuels was generally not feasible unless the areas were treated by prescribed burning, which would also set back any new seedling regeneration, which would likely be killed by prescribed fire. *Id.* It concluded that "the lowest fire risk strategy may be to leave dead trees standing as long as possible (where they are less available to surface flames), allowing for aerial decay and slow, episodic input to surface fuel loads over decades." *Id.*

A more recent scientific analysis also found that post-fire logging and associated skid trails and historic logging in the Rim Fire area of the Sierra National Forest had significant adverse effects on natural seedling regeneration. Hanson and Chi (2021) (Exhibit H) found support in the Forest Service's own analyses that post-fire logging inhibits natural regeneration, "given that post-fire logging kills most natural conifer regeneration; USFS, 2016." *Id.* at 2-3 (citing the Rim fire reforestation final environmental impact statement. U.S. Forest Service, Stanislaus National Forest. Sonora, California, USA.); USFS, 2016, p. 239 ("Salvage and fuels reduction operations can reduce survival of naturally regenerating conifer seedlings through soil disturbance and physically burying seedlings in woody material (Donato et al. 2006)").

Moreover, Hanson and Chi's analysis of natural regeneration found that logging in the decades prior to the Rim Fire had significantly set back natural regeneration:

> An additional 53 plots of the initial 169 did not meet our study criteria because, while they were historically forested, conifers had not grown in these locations for approximately one to four decades prior to the Rim fire, due to soil damage associated with past logging activities, such as logging roads, skid trails, landings, and logging slash pile burn sites. Thus, 34% of the historically forested landscape (53 out of 155 plots) did not support conifer tree cover at the time the Rim fire occurred due to past logging impacts.

Id. at 3. This logging damage occurs from mechanized equipment on forest soils, compacting, eroding, and reducing the soil's productivity, which is even more significant after a fire:

> Evidence continues to mount of a direct relationship between mechanical disturbance to the postfire environment and accelerated erosion (Kattleman 1996; McIver & Starr 2000, 2001). Soil compaction can persist for 50–80 years in many forest soils (Quigley & Arbelbide 1997) and even longer in areas with high clay content, which is substantially longer than the negative influence on soils that may be associated with fire (U.S. Department of Agriculture Forest Service & BLM 1997).
>
> *Because soils and soil productivity are irreplaceable in human time scales, postfire management practices that compact soils, reduce soil productivity, or accelerate erosion should not be undertaken or allowed to continue.*

Beschta et al. (2004) (Exhibit I) (emphasis added). Thus, mechanical equipment in the Castle Fire area would likely inhibit forest regeneration through soil compaction, erosion, and associated loss in productivity and is inherently inconsistent with the goal of ecological restoration. Therefore, the Forest Service must prohibit the use of mechanical equipment throughout the fire area.

7. <u>The EIS must analyze the greenhouse gas (GHG) emissions generated by the proposal and their effects on climate change.</u>

The proposal would likely remove thousands of trees as sawtimber, by burning on site, as firewood, and as biomass, which would not only release thousands of tons of GHGs into the atmosphere over a very short period of time, but would also irrevocably consume the limited natural resource of petroleum products in order to transport the biomass to a burning facility and would emit additional GHGs at those facilities. Leaving the material in the forest to naturally decay would significantly reduce the pulse of GHGs and store much of the carbon in the soil in comparison to the proposal to fell and remove trees. Moreover, the Forest Service, other public agencies, and private entities continue to implement similar large-scale biomass and other burning activities throughout the mountains of the Sierra Nevada and other national forests as a result of similar proposals. In combination, these activities will likely release cumulatively more GHGs into the atmosphere over a very short period of time thus exacerbating effects on climate change. These cumulative additions of GHG emissions and their effects on climate change must be considered and analyzed.

Consideration of climate change and GHG emissions are required by the Forest Service's Washington Office. *See* https://www.fs.usda.gov/ccrc/topics/introduction-incorporating-climate-change-nepa-process.

Each alternative should discuss and analyze carbon and methane emissions from implementation of the proposed action and the equipment used to implement the proposed action, and the no-action alternative should also provide information about the potential for carbon sequestration in

area soils (and the reduced rate of GHG emissions from natural decay) from foregoing project implementation that would remove or burn trees.

The environmental analysis must disclose the emissions from biomass and on-site burning, as well as the GHG emissions caused by equipment and transportation, for each action alternative. For this, the Chief's office of the Forest Service has generated specific direction on how to discuss climate change effects in a NEPA analysis. *See* Climate Change Considerations in Project Level NEPA Analysis (Jan. 13, 2009) (available at https://www.fs.fed.us/climatechange/documents/nepa-guidance.pdf). That document includes how similar projects should disclose direct effects on climate change:

- **The effect of a proposed project on climate change** (GHG emissions and carbon cycling). Examples include: short-term GHG emissions and alteration to the carbon cycle caused by hazardous fuels reduction projects, GHG emissions from oil and gas field development, and avoiding large GHG emissions pulses and effects to the carbon cycle by thinning overstocked stands to increase forest resilience and decrease the potential for large scale wildfire.

Id. at 2. To assist in disclosing these effects, the Forest Service provides tools that can help managers determine the direct contributions of GHG emissions from project burning or treatments. *Id.* at 5 (*FOFEM 5.5*, *Consume 3.0*, and the *Forest Vegetation Simulator*). Because the Forest Service has tools or models to effectively calculate emissions, it must disclose these emissions for each of the action alternatives. In addition, the guidance document suggests that the NEPA document include a qualitative effects analysis. *Id.* Such an analysis should include the cumulative effects, quantified in an "individual, regional, national, global" context. *Id.* at 6.

Finally, the guidance suggests that NEPA provides direction on how managers should respond to comments raised during project analysis regarding climate change:

1. Modify alternatives including the proposed action.
2. Develop and evaluate alternatives not previously given serious consideration by the Agency.
3. Supplement, improve, or modify the analysis.
4. Make factual corrections.
5. Explain why the comments do not warrant further agency response, citing the sources, authorities, or reasons which support the Agency's position and, if appropriate, indicate those circumstances that would trigger agency reappraisal or further response.

Id. at 8. At the very least, because this project includes tree removal and burning that will contribute GHG emissions, the EA must include an acknowledgment of carbon emissions and must provide a response to this issue.

Moreover, the analysis should account for and quantify (as part of the cumulative effects analysis) not only the emission from burning on-site and the emissions from any biomass that is removed from the project area and later burned off-site, but also the contribution of emissions

from transporting this material for off-site burning, and the contribution of emissions from planning and implementing the project by contractors and by the Forest Service.

This holistic approach to account for GHG emission is necessary to provide managers and the public with the kind of information under NEPA to make informed choices between alternatives, to mitigate actions to that may affect climate change, and to consider and assess the larger picture of GHG contributions from all national forest projects that may contribute GHG emissions.

Finally, if the Southwest Regional Office has or is planning to conduct additional analysis on the effects from the cumulative treatments from similar projects in the Southern Sierras, the analysis should reference and disclose that information.

In addition, the use of fossil fuels to cut, load, and haul trees and other woody vegetation from the forest to the sawmill or energy generation facilities sacrifices more to climate change and contributes to the extremely polluted air of the San Joaquin Valley and southern Sierra Nevada. The lack of clean air has caused permanent lung damage to many residents exacerbating the deadly consequences of the Covid-19 pandemic. Fossil fuel use to haul personnel to and from the forest to perform the proposed ground disturbing activities will further intensify the global climate crisis.

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

Sincerely,

René Voss – Attorney at Law