



Sierra Forest Legacy

Protecting Sierra Nevada Forests and Communities



February 13, 2023

USDA Forest Service, Regional Forester
1323 Club Drive, Vallejo, CA 94592
Attn: Creek Fire Ecological Restoration Project

Sent via: objections-pacificsouthwest-regional-office@usda.gov

Re: Objection to the Creek Fire Ecological Restoration Project
(<https://www.fs.usda.gov/project/?project=60422>)

To the Regional Forester:

This objection to the Creek Fire Ecological Restoration Project is submitted on behalf of Sierra Forest Legacy. We submitted timely comments on the draft environmental assessment (EA) for this project. This objection focuses on impacts to California spotted owl and requirements under the National Forest Management Act (NFMA) to maintain viable populations of this at-risk species, impacts to Pacific fisher and requirements under the Endangered Species Act (ESA), and requirements under the National Environmental Policy Act (NEPA) to disclose the potential impacts of the proposed project. We raised these issues in our comments on the draft environmental assessment (Attachment A) and elaborate on them below.

I. Impacts to Species Associated with Late-Seral Forest Conditions

As we stated in our comments on the draft EA:

Even before wildfire, dense conifer forests with large tree structures that are preferred by at-risk species like California spotted owl (CSO) and Pacific fisher did not dominate the landscape (Vegetation Report, p. 7, Table 6). For example, the 2016 the vegetation analysis indicated that the Sierra mixed conifer forest (SMC) type in the project area was dominated by canopy cover below 40% prior to the fire. SMC is the dominant forest type used by California spotted owl and Pacific fisher, but these lower canopy conditions do not provide the dense forest conditions preferred by these species for denning, resting, nesting or roosting (USDA Forest Service 2022b). This means that only about 40% of the SMC type in the project area was considered potential habitat for these species, i.e., CWHR types 4M, 4D, 5M, and 5D¹, before the wildfire. The impact of the wildfire was to further reduce dense, mature forest. Focusing on areas burned at the highest severities (>75% basal area lost), the fire altered habitat conditions on 17,626 acres of SMC in CWHR type 4M, 4D, 5M, and 5D (Vegetation Report, p. 10, Table 12 and 13). Ultimately between 2016 and after the fire in 2021, the denser forest conditions in SMC preferred by these at-risk species were reduced from 40% of this type in the project area to 24% of this type in the project area.

¹ CWHR 6 is a habitat type that is also preferred by these species, but it does not appear in the project area as described by the inventory in Table 6 of the Vegetation Report (p. 7).

(SFL comments 2022, p. 4) This extreme loss of habitat for at-risk species was not addressed in the draft or the final environmental documents. This is the baseline condition in the project area. Changes to these baseline conditions from the proposed logging and other actions must be estimated in the environmental analysis. Furthermore, the proposed logging and habitat degradation in both the short and long terms need to be considered in light of the recent loss of preferred habitat.

A. California Spotted Owl (CSO)

We provided the context for our acute concern about habitat management for this species in our comments on the draft EA:

... CSO has experienced a documented population decline on the demographic study for the Sierra National Forest (Conner et al. 2016). This is the backdrop for losses of protected activity centers (PACs) for CSO and other species that are described in the BE/BA. For instance, the BE/BE reports that 102 PACs were affected by the fire and that 24 of these have the forest structure to support potential nesting (Wildlife BE/BE, p. 16). This suggests that habitat conditions were altered so much on 78 PACs as to make them unsuitable for nesting. If correct, this is an extreme loss of owl sites not previously reported for a wildfire in the range of this species. Given the poor demographic results and low levels of preferred habitat, the additional reductions in habitat quality from project activities like “green tree thinning and fuel reduction” are likely to be significant.

(SFL comments, p. 4) The final EA still does not provide an analysis of the impacts of the proposed action on this now highly limited habitat.

Given the cumulative loss in activity centers and essential habitat since adoption in 2004, the measures in the forest plan that allow habitat degradation may no longer be appropriate. The adequacy of the forest plan cannot be determined though without an analysis of the impacts on the required habitat. This is especially relevant to highest quality and best available habitat for this species. As we stated in our comments on the draft EA:

We think it likely that such an analysis will indicate that these circular territories have far less than the 40-60% in the highest quality nesting and roosting habitat. In such circumstances, the CSO strategy directs that the highest quality nesting and roosting habitat should be maintained in the territory (USDA Forest Service 2019, p. 29). This means the cover and size classes of the CWHR types 5M and 5D (highest quality nesting and roosting habitat) should not be altered by management activities. This is also similar to the direction in the existing forest plan to avoid or limit treatment in CWHR 5M, 5D, and 6 when it occurs within home range core areas (USDA Forest Service 2004, p. 46).

(SFL comment 2022, p. 5) There are no design measures in the final EA to ensure that highest quality habitat is maintained despite this being the management intent of the existing forest plan (USDA Forest Service 2004, p. 46) and recommended in the CSO strategy (USDA Forest Service 2019, p. 29).

The low amounts on CWHR 5M and 5D in the project area (Vegetation report, Table 6, p. 7) reinforce our concern about the sufficiency of habitat to support nesting and roosting in the project area. We raised this concern in our comments on the draft EA:

We are also very concerned that CWHR 5M and 5D have been so reduced in amount that CSO will be relying even more heavily on CWHR 4D as the next best nesting and roosting habitat, especially CWHR 4D habitat that contains large trees (Moen and Gutierrez 1997). Due to the low amounts of highest quality nesting and roosting habitat, treatments in green forests should retain the canopy density in higher quality CWHR 4D, i.e., CWHR 4D with large trees should be maintained as 4D, to provide sufficient habitat for nesting and roosting. This is consistent with the CSO strategy that prioritizes CWHR 4D over 4M when evaluating territories (USDA Forest Service 2019, p. 29). It is also consistent with the draft forest plan for the Sierra National Forest that emphasizes the importance of best available habitat, especially with large trees, when there are limited areas of the highest quality nesting and roosting habitat (USDA Forest Service 2022, p. 60).

(SFL comment 2022, p. 5) The final EA still does not include an analysis of post-treatment habitat to demonstrate that sufficient habitat will be available to support the remaining owl sites in the project area. Based on the information provided in the project file and our comments, it is highly likely that conditions are much less than desired for CSO. We view the failure to complete a habitat analysis as a violation of NEPA.

Despite the likely dire habitat conditions for this at-risk species, the final EA did not adopt specific design criteria to ensure that highest quality nesting and roosting habitat and best available nesting and roosting habitat was maintained in CSO territories where conditions are less than desired. Failing to protect nesting and roosting habitat is likely to contribute to further declines of this species and threaten its viability, contrary to NFMA.

B. Pacific Fisher

Pacific fisher was listed as endangered under the Endangered Species Act in 2020. Habitat modification from severe, uncharacteristic fire and logging were identified as threats to this species in the species report and listing decision (USDI Fish and Wildlife Service 2020). Given the reduction in denning and resting habitat due to extreme fire effects, it is essential that remaining denning habitat be protected and conserved.

1. Degradation of Habitat

We raised concerns in our comments on the DEIS about the lack of analysis of impacts from the logging of green trees to Pacific fisher, a species listed as endangered under the Endangered Species Act. Between the draft and final EA, the design features for this species were revised and a draft biological assessment (BA) was produced. The draft BA evaluates only the treatments to be conducted in the “near term treatment areas.” It concludes that actions in these areas “May affect [but is] not likely [to] adversely affect species or critical habitat” (Wildlife

report, p. 9). This conclusion is arbitrary because it is not supported by habitat analysis or factual information.

The USFWS defines actions that may affect listed species, but are not likely to adversely affect them as follows:

May affect, but not likely to adversely affect" means that all effects are beneficial, insignificant, or discountable. Beneficial effects have contemporaneous positive effects without any adverse effects to the species or habitat. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur. Based on best judgment, a person would not: (1) be able to meaningfully measure, detect, or evaluate insignificant effects; or (2) expect discountable effects to occur.

(USDI Fish and Wildlife Service 2023) To support this finding, the BA must provide evidence, including habitat analysis, that all effects are beneficial, insignificant, or discountable.

We are particularly concerned about the resilience treatments that occur in critical habitat and the site preparation in all habitat types (Wildlife BA, p. 18, Table 6). As discussed in more detail below, it is likely that high quality and potential denning habitat occurs outside of modeled reproductive habitat. There is also potential for habitat degradation in site preparation, since this activity also includes “stand thinning to reduce density” (final EA, Appendix 2, p. 102). We asked in our comments on the DEIS for a more detailed habitat analysis to support their finding, but none was provided in the final project documents.

Adverse effects to habitat could be avoided by adopting design measures that ensure that the habitat for this species will be maintained and adverse impacts avoided. Unfortunately, this was not done for the Creek Fire project. Instead, the final BA adopts design measures that are comparable to the plan components adopted in the revised forest plan for the Sierra National Forests. These design measures in the forest plan were insufficient to support a determination that project impacts would not adversely affect Pacific fisher. See for example the BA for the revised forest plan finding that “habitat could be affected by fire management, vegetation and fuels management...” and the forest plan cannot ensure activities “would have no effect or that all actions would be discountable, insignificant, or beneficial.” (USDA Forest Service 2022a, p. 104)

We also raised concerns in our comments on the draft EA that the terms used in the design features (i.e., management requirements in Appendix 3) were undefined and that this created uncertainty in the application of these measures. The final EA does not correct this deficiency. For example, the term “den clusters” is used repeatedly in the design features presented in the final EA (Appendix 3), but it is not defined. There are also no habitat definitions provided in Appendix 3 or other documents, yet the design measures refer to “Potential Denning Habitat” and “High Quality Denning Habitat.” Without habitat definitions and guidance on how habitat is identified in the project area, one cannot know where to apply the design measure. Please refer to our attached comments on the draft EA for a more comprehensive discussion about the terms that still must be defined.

2. The Habitat Analysis Provided Is Not Adequate

The BA provides a table that identifies the amount of treatment by habitat quality, including proposed critical habitat for Pacific fisher. This table limits the quantitative habitat analysis to the use of modeled reproductive habitat provided by Conservation Biology Institute. The analysis should not have been limited to this modeling data, but should have also included the most current data on California Wildlife Habitat Relationships (CWHR). This additional analysis would have likely identified additional high quality and potential reproductive habitat in the extensive area of critical habitat identified as affected by “resilience treatments” in the BA, i.e., 8,109 acres (p. 18, Table 6). The need to look beyond the habitat modeling in project level analysis is reinforced in the biological opinion for the revised forest plan:

Information from models is refined by ground-truthing and site level habitat mapping in order to assess the most appropriate locations to employ conservation measures and determine the likely effects of proposed actions.

(USDI Fish and Wildlife Service 2022, p. 75) The appropriate habitat definitions and framing for project level analysis is also covered in the revised forest plan for the Sierra National Forest (USDA Forest Service 2022b, p. 51-54). The most current CWHR information should be used to evaluate baseline and post-treatment conditions and to support the development of design measures to maintain habitat quality and not adversely affect Pacific fishers.

3. Missing Design Feature: Den Site Buffers

We raised this in our comments on the DEIS, but our comment was ignored. “Den Site Buffers” are an important design feature from the existing forest plan that is missing from Appendix 3. The den site buffer for Pacific fisher controls vegetation management in the 700-acre den site buffer by directing a limited operating period and by limiting treatments to those focused on surface and ladder fuels (USDA Forest Service 2004, p. 61, where “den site buffer” is defined on p. 39). This is the current direction in the forest plan and must be followed unless otherwise amended.

4. Compliance with the Endangered Species Act (ESA)

The final EA and draft decision do not comply with ESA for several reasons. First, the consultation requirement for Pacific fisher is limited to a subset of the project’s footprint. This means that the remainder of the project described in the EA does not comply with the ESA. Second, the wildlife BA does not provide a factual, science-based analysis to support the claim that project activities may affect Pacific fishers, but are not likely to adversely affect the species. Third, the project has yet to complete consultation and the biological opinion and supporting documents have not been posted on the project website.

C. The Habitat Analysis for Late-Seral Closed Canopy Coniferous Forest Is Incomplete for Management Indicator Species

Late seral closed canopy coniferous forest is a habitat type that is to be evaluated for each project as part of the Management Indicator Species requirements under the existing forest plan. This habitat analysis is provided in the wildlife report.

The wildlife report states that one of the habitat factors to be evaluated in the analysis is “acres with changes to canopy closure (D to M)” (Wildlife report, p. 47). This is an important factor to evaluate because it characterizes potential changes from project activities to closed canopied conditions that are essential for viable populations of at-risk species like CSO, Pacific marten, and Pacific fisher. It is also an important factor to report on at the project level in order to understand if additional design features are needed to for the project. An effects analysis that estimates how much CWHR 5D would be changed to 5M would also inform the effects analysis for CSO and Pacific fishers, since CWHR 5D represents the highest quality nesting and roosting habitat for CSO and highest quality denning and resting habitat for Pacific fishers.

II. Environmental Documentation for This and Subsequent Decisions for the Creek Project Area

We are very confused by the approach to environmental decision making that is being used for this project. The final EA (p. 10) describes an approach to environmental analysis, decision making, and implementation that implies a single decision will be made to permit the actions in the final EA. This section also speaks to the view that the project is so big and future conditions so uncertain that detailed analysis relevant to project design and implementation had to be deferred to a later time. An implementation process is outlined for the project area that identifies agency review and public review outside the administrative process.

Then without explanation in the final EA, the draft DN/FONSI limits the footprint of action to be permitted to the areas identified as “near term treatment areas” identified in Tables 1 and 2 of the final EA (p. 14-15). Furthermore, the wildlife BA limits its analysis and consultation with USFWS to these “near term treatment areas”:

The Forest Service is proposing actions within the entire project boundary (as depicted with a green boarder in figure 2). However, the Forest has prioritized treatments areas that will occur in the near-term, as listed in table 1 and depicted in figure 2. Prioritization of projects was based on a post fire assessment (Rojas 2021). These prioritized projects will be covered under this consultation.

(Wildlife BA, p. 3) This means that treatment beyond the near-term areas will require additional consultation, documentation of the environmental analysis in a BA, and public review of that analysis and any draft decision. It remains unclear in the present manifestation of decision making, how the section in the final EA on “Implementation” is integrated into the project development process. For example, these “near term treatment area” still have not disclosed information about specific locations and prescriptions. Will implementation steps 1-6 still be followed for each of the 6 subproject areas in the “near term treatment areas”?

We also do not understand the planning process to be applied to the areas within the project area, but outside of the “near term treatment areas.” What is the process for identifying additional

areas for treatment, completing requirements for decision making under NEPA, consulting under the Endangered Species Act, and any other consultation and permitting requirements? When will the administrative review of the additional environmental analyses and draft decisions take place? The environmental decision making and consultation process to be used for the entire project area should be fully described in the final EA.

III. Incidental Revisions Needed

We made some of these points in our comments on the draft EA, but they were ignored.

The vegetation report mentions the presence of Douglas fir in the project area (Vegetation Report, p. 36), but this species is not in the project area. It is our understanding that Douglas fir does not occur south of Yosemite National Park and as such does not occur in the project area (https://www.srs.fs.usda.gov/pubs/misc/ag_654/volume_1/pseudotsuga/menziesii.htm). If this reference in the report is to an atypical occurrence of Douglas fir in the southern Sierra Nevada, please note this in the report.

The wildlife report characterizes habitat for Pacific fishers as “North coast coniferous forest” (Wildlife report, p. 5). This is incorrect and should be revised to reflect habitat for the distinct population of Pacific fishers that are affected by this project located in the Sierra Nevada bioregion.

The wildlife report addresses impact to Sierra marten and indicates that “Direct effect to denning marten are unlikely as **design features require surveys** and a limited operating period around active den sites.” (Wildlife report, p. 18; emphasis added). We are unaware of any project related survey requirement for marten. We were also not able to find a design feature that addressed marten specifically. This statement should be clarified in a revised wildlife report.

IV. Recommended Actions to Address These Concerns

We offer the following recommendations to resolve our objection related to the following areas:

California spotted owl

- Adopt a design feature that ensures that habitat quality for the CWHR types 5M, 5D, and 6 are maintained, e.g., canopy class D is not reduced to M.
- Adopt a design feature that ensures that CWHR 4D will be maintained to provide the best available nesting and roosting habitat when home range core areas (HRCAs) or territories contain less than 60% of their areas in highest quality nesting and roosting habitat (CWHR 5M, 5D, or 6)
- Complete an analysis of HRCAs or territories to assess pre- and post- treatment habitat condition for each territory or HRCA. Identify those HRCAs or territories containing less than 60% highest quality habitat (CWHR 5M, 5D, and 6).

Pacific fisher


- Adopt the following design feature to ensure that reproductive habitat for fishers is maintained:
In areas defined as high-quality and potential fisher denning habitat², limit vegetation management activities to hazard tree abatement, surface and ladder fuel treatment, single-tree selection for the purpose of separating tree clumps, and low-intensity prescribed fire. Use methods that do not fundamentally change stand structure, canopy cover, or California Wildlife Habitat Relationship category. Retain multistory conditions and understory heterogeneity (both vertical and horizontal) where ecologically appropriate.
- Adopt a design feature that follows standard/guideline 85 and 86 for den sites and den site buffers from the current forest plan (USDA Forest Service 2004, p. 61)
- Complete an analysis of reproductive habitat and proposed critical habitat using both the CBI models and the most current CWHR data to assess pre- and post- treatment conditions for high-quality and potential fisher denning habitat.
- Provide definitions for terms used in the following design features:
Wildlife 17: “Potential Denning Habitat” and “High Quality Denning Habitat”
Wildlife 20: “Key Connectivity Areas” and “Key Travel Routes”
Wildlife 23: “both known and potential den clusters”
Wildlife 26: “den buffers” and “den clusters”

Other issues

- Complete the analysis in the wildlife report for late-seral closed coniferous forest and report the effects of treatment on canopy cover type D
- Revise the final EA to make it clear that this is a programmatic document and identify the specific steps that will be used to provide the additional analysis, agency consultation, and public review required for any subsequent decision that seeks to tier to the programmatic EA.
- Make the incidental revisions identified in section III of these comments.

We appreciate the opportunity to provide additional comments on the final EA and draft DN/FONSI for the Creek Fire project. We look forward to meeting with you to discuss these concerns and how they can be resolved.

Sincerely,



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² This design feature uses the habitat definitions for Pacific fisher from the revised forest plan for the Sierra National Forest (USDA Forest Service 2022b, p. 52) and the biological opinion for this forest plan.

Attachment A: SFL Comments on the Draft Environmental Assessment for the Creek Fire Restoration Project (#60422)

References Cited

Sierra Forest Legacy 2022. Comments on the Draft Environmental Assessment for the Creek Fire Restoration Project (#60422). (Attachment A).

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USDA Forest Service 2019. Conservation Strategy for the California Spotted Owl in the Sierra Nevada. Version 1.0. Pacific Southwest Region, Forest Service, US Department of Agriculture. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd624135.pdf

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USDA Forest Service 2022b. Land Management Plan for the Sierra National Forest Pre-objection Version. June 2022. Pacific Southwest Region, Forest Service, US Department of Agriculture. <https://usfs-public.app.box.com/v/PinyonPublic/file/971084907943>

USDI Fish and Wildlife Service 2020. Endangered and Threatened Wildlife and Plants; Endangered Species Status for Southern Sierra Nevada Distinct Population Segment of Fisher. Federal Register 85 (95):29532-29589. <https://www.govinfo.gov/content/pkg/FR-2020-05-15/pdf/2020-09153.pdf#page=1>

USDI Fish and Wildlife Service 2022. Formal Consultation on the Sierra National Forest's Land Management Plan, Fresno, Madera, and Mariposa Counties, California. May 17, 2022. <https://usfs-public.app.box.com/v/PinyonPublic/file/971106201006>

USDI Fish and Wildlife Service 2023. Endangered Species Act Federal Project Review - Understanding Effect Determinations. <https://www.fws.gov/story/endangered-species-act-federal-project-review-understanding-effect-determinations> Webpage accessed 2/10/23.



Sierra Forest Legacy
Protecting Sierra Nevada Forests and Communities



September 21, 2022

Sierra National Forest Supervisor's Office
Attention: Creek Fire Project Comments
1600 Tollhouse Road
Clovis, CA 93611

Sent via: <https://cara.fs2c.usda.gov/Public//CommentInput?Project=60422>

Re: Comments on the Draft Environmental Assessment for the Creek Fire Restoration Project (#60422)

To the Interdisciplinary Team:

We have reviewed the Draft Environmental Assessment and accompanying specialist reports for the Creek Fire Restoration Project. These documents are well written and organized. We very much appreciate the effort made to deliver documents that are clearly written and focused.

We offer the following comments and recommendations on issues related to the restoration of beneficial fire, conservation of at-risk species associated with old forest habitats, and public engagement during implementation.

I. Additional Detail Should Be Provided Describing the Proposed Action

The footprint and extent of the proposed treatment activities should be clarified. The maps in Appendix 1 show six areas where extensive treatments area proposed. As described, they include reforestation, resilience, hazard tree abatement –State, County, and Private Roads, roadside hazardous fuels, fuel break maintenance, and hazardous fuel reduction – wildland urban interface (WUI). We ask that you provide a summary table of these categories that discloses the area (acres) of each treatment type.¹ We also ask that this information be used in the effects analyses for specific resources like California spotted owl and Pacific fisher.

We also ask that you clarify the extent of treatments as you move from the project area to the first subproject treatment area described in the draft EA (p. 13). Our review of the Kaiser subproject treatment area leads us to believe that not all of the areas designated as “resilience” or “reforestation” are being included in the subproject treatment areas. We ask that you clarify this in writing. If only a portion of the “resilience” or “reforestation” or any other areas are being treated, we ask that you display the area selected for treatment compared to the total originally classed for that type of treatment. This will allow one to judge how the extent of the proposed treatment area changes as different subprojects are implemented.

¹ We note that such a summary table is provided in the BE/BA (p. 13) for the effects analysis for Pacific fisher, although we have questions about its accuracy. See section III.B.1. for additional information.

We also ask that you provide more detail explanation supporting the selection of the subproject areas and how these met the prioritization criteria that you set. For instance, please explain why treatments in the Kaiser subproject area was selected as a priority, since this area is higher elevation and close to wilderness. This seems in conflict with this criterion: “Areas in the higher elevation portion of the Forest (near roadless and wilderness) would be the lowest priority” (draft EA, p. 12). We recommend that you provide narrative or a summary table indicating how each subproject area meets the prioritization criteria or why in the specific instance meeting the criteria is not relevant.

II The Proposed Action Lacks the Necessary Emphasis on Restoring Fire to the Project Area

We are deeply concerned that the proposed action and draft EA do not highlight the importance of restoring more frequent and beneficial fire to the Creek Fire footprint. The draft EA identifies the use of prescribed fire as follow up treatment and as a first entry treatment:

Forest health, resilience, and wildlife habitat improvement treatments would occur within unburned areas or those burned with low-severity fire (approximately 53,000 acres—see *Appendix 1 – Maps*). Thinning, surface fuels reduction, and prescribed fire (underburning and pile burning) treatments would focus on mitigating habitat loss from future fires by restoring forest health, vigor, and resiliency to drought, insect, or disease within affected stands, and moving conditions toward desired conditions identified by the forest plan. Prescribed fire may be used in conjunction with other treatments, such as after thinning or fuels reduction treatments. **In other areas, prescribed fire may be the primary tool. For example, where low-severity fire has already reduced surface fuels and a shorter fire return interval is desired, or where thinning activities are not feasible due to lack of access or slope percentage.**

(Draft EA, p. 10; emphasis added) We support the use of prescribed fire as a primary management approach. Unfortunately, the descriptions of prescribed fire in Appendix 2 refer to it only as a follow up treatment in the sections on “green tree thinning and fuels reduction” (Draft EA, p. 102) and “prescribed burning (general)” (draft EA, p. 106). Prescribed burning is also mentioned in reference to site preparation for reforestation, but there is no mention in Appendix 2 of using prescribed burning as the primary tool to restore fire as an essential ecological process on this landscape.

We are also concerned that the proposed action does not place a priority on the use of prescribed fire to manage planted areas. As conceived, the proposed action would plant over 50,000 acres by year 8. At year 8 in the Big Creek plantations, fire was used to reduce fire risk, reduce competing vegetation and increase the resilience of the planted stands (Dinkey Landscape Planning Working Group 2017). The proposed action should identify the use of prescribed fire in planted stands beginning in year 8 of the project at a rate that is commensurate with the rate of planting. More specifically, if 6,800 acres were planted in year 1, then roughly 6,800 acres of prescribed fire in those planted stands should be scheduled for year 8 of implementation.

We are also unclear on what actions are proposed in conifer forests that are unburned or lightly burned where existing canopy cover is less than 40%. Appropriately, these stands are not targeted for thinning, since thinning is focused on habitat types that have canopy cover greater than 40% (Vegetation report, p. 32). The use of prescribed fire is likely very appropriate to maintain desired fuel levels and increase the heterogeneity of such stands. Nonetheless, the draft EA and proposed activities described in Appendix 2 do not clearly state if such stands are included in the “resilience treatments.”

The proposed action also does not appropriately plan for the beneficial use of managed fire over this large landscape. The proposed action mentions maintaining existing fuel breaks to support suppression response (Draft EA, p. 4), but the strategic locations for controlling beneficial fire across the landscape were not identified or considered. In addition, the implementation approach (draft EA, p. 11-12) does not place a priority on the restoration of beneficial fire and the use of prescribed fire to enhance resilience. If this plan does not establish a rate of fire restoration commensurate with the natural fire regime of the area and a landscape level plan to accomplish the reintroduction of fire, the project purpose to create a resilient forest landscape will not be met. This is because the restoration of beneficial fire is not simply the application of prescribed fire as a tool, but it is the restoration of an ecological process that uniquely shapes the landscape where its periodic occurrence imparts resilience. This is reinforced in GTR-270 with the adoption of this guiding principle:

Restoration Focuses on the Reestablishment of Key Ecological Processes to Provide for Long-Term Ecosystem Integrity and Function

(Meyers et al. 2021, p. 12).

To meet the purpose and need to “minimize the risk of further high-intensity, large-scale fires” and increase the “resilience of remaining forested areas (draft EA, p. 4), the draft EA should be revised in the following ways:

- Revise the introduction to establish that project success depends on reintroducing beneficial fire to improve landscape resilience and habitat quality in the project area;
- Clarify the criteria used to define the “resilience treatment” area and ensure that areas with low canopy cover are included in this treatment area to allow use of prescribed fire;
- Identify control points or the potential operational delineations (PODs) needed to support an expanded prescribed fire program;
- Specifically identify prescribed fire as a primary treatment to be undertaken in (at least) areas that were unburned or burned at low levels;
- Prioritize the use of prescribed fire as a cultural practice for plantation release and development beginning in year 8 of planted stands;
- Add the use of prescribed fire as a primary treatment to the prioritization criteria;
- Add the use of prescribed fire in plantations to the prioritization criteria; and
- Include an estimate in the proposed action (e.g., on page 14 of the draft EA) of the annual amount of prescribed fire needed to manage plantations and areas that were unburned or burned at low severity.

III. Conservation of Species Associated with Old Forest Habitat

Even before wildfire, dense conifer forests with large tree structures that are preferred by at-risk species like California spotted owl (CSO) and Pacific fisher did not dominate the landscape (Vegetation Report, p. 7, Table 6). For example, the 2016 the vegetation analysis indicated that the Sierra mixed conifer forest (SMC) type in the project area was dominated by canopy cover below 40% prior to the fire. SMC is the dominant forest type used by California spotted owl and Pacific fisher, but these lower canopy conditions do not provide the dense forest conditions preferred by these species for denning, resting, nesting or roosting (USDA Forest Service 2022b). This means that only about 40% of the SMC type in the project area was considered potential habitat for these species, i.e., CWHR types 4M, 4D, 5M, and 5D², before the wildfire. The impact of the wildfire was to further reduce dense, mature forest. Focusing on areas burned at the highest severities (>75% basal area lost), the fire altered habitat conditions on 17,626 acres of SMC in CWHR type 4M, 4D, 5M, and 5D (Vegetation Report, p. 10, Table 12 and 13). Ultimately between 2016 and after the fire in 2021, the denser forest conditions in SMC preferred by these at-risk species were reduced from 40% of this type in the project area to 24% of this type in the project area. This extreme loss of habitat for at-risk species is not addressed in the draft EA or biological evaluation/biological assessment (BE/BA). The likely impact of this dramatic change in habitat conditions for these species and how this affects their persistence in the project areas needs to be evaluated. Furthermore, the proposed logging and habitat degradation in both the short and long terms need to be considered in light of the recent loss of preferred habitat.

Pacific fisher is listed as endangered under the Endangered Species Act and CSO is now being considered for federal listing. Pacific fisher has low population numbers (USDI Fish and Wildlife Service 2020) and CSO has experienced a documented population decline on the demographic study for the Sierra National Forest (Conner et al. 2016). This is the backdrop for losses of protected activity centers (PACs) for CSO and other species that are described in the BE/BA. For instance, the BE/BE reports that 102 PACS were affected by the fire and that 24 of these have the forest structure to support potential nesting (Wildlife BE/BE, p. 16). This suggests that habitat conditions were altered so much on 78 PACs as to make them unsuitable for nesting. If correct, this is an extreme loss of owl sites not previously reported for a wildfire in the range of this species. Given the poor demographic results and low levels of preferred habitat, the additional reductions in habitat quality from project activities like “green tree thinning and fuel reduction” are likely to be significant. These significant impacts to habitat quality must be disclosed in the environmental analysis. If measures are not adopted to reduce these impacts to less than significant, then an environmental impact statement must be prepared.

We agree that it is important to increase the resilience to extreme wildfire in the remaining dense, mature conifer habitat. Overall, we don’t believe that the project appropriately balances the short-term losses in habitat quality with the short-term habitat needs for persistence. We believe that the project lacks sufficient protection for the habitats that support denning, resting, nesting and roosting for old forest associated species, especially CSO and Pacific fisher. In the sections below, we provide additional comments on these species and specific recommendations

² CWHR 6 is a habitat type that is also preferred by these species, but it does not appear in the project area as described by the inventory in Table 6 of the Vegetation Report (p. 7).

for their conservation. The recommendations we provide below for CSO and Pacific fisher will also benefit Sierra marten and northern goshawk, two other old forest associated species that are at-risk.

A. California Spotted Owl: Impacts and Recommendations

The demographic study for CSO on the Sierra National Forest concludes this population has been in decline for a number of years with a marked loss in breeding territories over time (Conner et al. 2016). The habitat changes as a result of the Creek Fire have likely led to a loss of additional breeding territories (BE/BE, p. 16). These baseline conditions were not mentioned in the BE/BA and should be addressed in the environmental analysis.

We ask that you complete a habitat analysis at the territory scale using the set of 102 activity centers reference in the BE/BA (BE/BA, p. 16). This analysis should follow the approach outlined in the CSO strategy produced by the Forest Service in 2019 (USDA Forest Service 2019). The analysis should be based on a circular territory 800 acres in size. Current conditions should be estimated using the vegetation data from 2016 with the burn severity data from the Creek Fire used to estimate changes in habitat condition within each territory. These estimates of habitat condition by territory should be compared to the desired conditions for territories established in the CSO strategy (USDA Forest Service 2019, p. 29) and draft forest plan for the Sierra National Forest (USDA Forest Service 2022, p. 64, SPEC-CSO-DC 02).

We think it likely that such an analysis will indicate that these circular territories have far less than the 40-60% in the highest quality nesting and roosting habitat. In such circumstances, the CSO strategy directs that the highest quality nesting and roosting habitat should be maintained in the territory (USDA Forest Service 2019, p. 29). This means the cover and size classes of the CWHR types 5M and 5D (highest quality nesting and roosting habitat) should not be altered by management activities. This is also similar to the direction in the existing forest plan to avoid or limit treatment in CWHR 5M, 5D, and 6 when it occurs within home range core areas (USDA Forest Service 2004, p. 46).

We are also very concerned that CWHR 5M and 5D have been so reduced in amount that CSO will be relying even more heavily on CWHR 4D as the next best nesting and roosting habitat, especially CWHR 4D habitat that contains large trees (Moen and Gutierrez 1997). Due to the low amounts of highest quality nesting and roosting habitat, treatments in green forests should retain the canopy density in higher quality CWHR 4D, i.e., CWHR 4D with large trees should be maintained as 4D to provide sufficient habitat for nesting and roosting. This is consistent with the CSO strategy that prioritizes CWHR 4D over 4M when evaluating territories (USDA Forest Service 2019, p. 29). It is also consistent with the draft forest plan for the Sierra National Forest that emphasizes the importance of best available habitat, especially with large trees, when there are limited areas of the highest quality nesting and roosting habitat (USDA Forest Service 2022, p. 60).

Given these poor demographic results and low the levels of preferred habitat, the additional reductions in habitat quality from project activities like “green tree thinning and fuel reduction” are likely to be significant. These significant impacts to habitat quality must be disclosed in the

environmental analysis. We ask that the following measures be adopted to reduce the level of impact to provide the ecological conditions necessary to support nesting and roosting for CSO.

- Provide an effects analysis of habitat quality around activity centers that includes a baseline of post-wildfire habitat conditions in the 800-acre circular territories around an activity center and compare these results to the desired conditions provided in the draft forest plan (USDA Forest Service 2022, p. 64). Use this information to evaluate the potential impacts from reducing habitat quality in habitat-limited landscape.
- Adopt a design feature to conserve the highest quality and best available nesting and roosting habitat, as defined in the draft forest plans (USDA Forest Service 2022, p. 60), and that limits vegetation management activities in these habitat types to hazard tree abatement, surface and ladder fuel treatment, single-tree selection for the purpose of separating tree clumps, and low-intensity prescribed fire. Use methods that do not fundamentally change stand structure, canopy cover, or decrease the California Wildlife Habitat Relationship category. Retain multistory conditions and understory heterogeneity (both vertical and horizontal) where ecologically appropriate.

B. Pacific Fisher: Impacts and Recommendations

Pacific fisher was listed as endangered under the Endangered Species Act in 2020. Habitat modification from severe, uncharacteristic fire and logging were identified as threats to this species in the species report and listing decision (USDI Fish and Wildlife Service 2020). Given the reduction in denning and resting habitat due to extreme fire effects, it is essential that remaining denning habitat be protected and conserved.

1. The Effects Analysis is Limited in Scope and Often Unclear

The recent biological opinion for the revised forest plan for the Sierra National Forest highlighted the substantial effects of the Creek Fire on fisher:

In 2020, a substantial amount of the fisher range was affected by the Creek Fire on the Sierra National Forest and the Castle Fire (Sequoia Complex) on the Sequoia National Forest. On the Sierra National Forest in 2020, an estimated 24,500 acres of potential denning habitat, including almost 7,600 acres of high-quality denning habitat burned at high severity in the Creek Fire.

Thus, a significant amount of denning habitat in the Creek Fire project area was adversely impacted by high severity fire. The draft EA identifies that the proposed activities would reduce the quality of habitat, but does not evaluate this reduction in light of recent severe changes in habitat quality due to the Creek Fire.

The BE/BA also quantifies the amount of reproductive habitat that will be affected by various treatments in Table 4 (p. 13).³ Unfortunately, the definitions for “high quality” and “moderate quality” reproductive habitat are not provided in the BE/BA. We understand that this estimate of habitat quality is derived from Thompson et al. (2021), but the analysis in the BE/BA lacks a description or characterization of the model attributes or a visualization (map) of the habitat distribution in the project area. It is clear from Table 4 of the BE/BA (p. 13) that a map exists since this table estimates the amount of reproductive habitat that would be affected by the proposed activities. Unfortunately, it appears from this table that the estimates of reproductive habitat have not been revised to reflect the impacts of the Creek Fire. For instance, the table reports just over 15,000 acres would be reforested within reproductive habitat. Since reforestation areas appear to be dominated by areas with basal area loss of over 90% (Vegetation report, p. Tables 12 and 13 showing most of the area burned at >50% basal area loss is actually burned at >90% basal area loss), this habitat likely no longer has the qualities that support fisher reproduction. The effects analysis for fisher should be revised to estimate the change in habitat quality between 2016 and after the fire. This new baseline in habitat condition should be used to estimate effects from the various treatments. See the comments above on CSO for a suggestion about how to make such an estimate.

This new baseline in amount and distribution of reproductive habitat should also be used to provide the context for evaluating the short term (10 year) loss in habitat as a result of the proposed activities. Given the low the levels of preferred habitat, the additional reductions in habitat quality from project activities like “green tree thinning and fuel reduction” are likely to be significant. These significant impacts to habitat quality must be disclosed in the environmental analysis. If measures are not adopted to reduce these impacts to less than significant, an environmental impact statement must be prepared.

2. Definitions of Habitat Are Not Provided

Designing and implementing effective conservation measures depends on establishing definitions for habitat that are clear and accompanied by a data source. Appendix 2 contains numerous phrases to characterize the quality of fisher habitat, yet none of them are defined. Examples of the phrases used in Appendix 2 include:

- suitable fisher habitat
- high quality fisher denning habitat
- potential fisher reproductive habitat
- high quality reproductive habitat
- moderate quality reproductive habitat
- fisher habitat
- potential fisher denning habitat
- unsuitable fisher habitat
- potential fisher corridors

³ We ask that you double check the values in this table. From our very rough examination, it looks like the “hazardous fuel reduction” category might be an over estimate given that more than 35,000 acres of reproductive habitat would be treated.

As these appear in Appendix 2, each in some fashion directs the application of the stated design criteria. However, because these terms are not defined, it is not possible to determine where precisely the design criteria would be applied.

We ask that the habitat definitions be standardized for the Creek Fire project. We also ask that these standardized definitions with their accompanying geographic data be used to evaluate the potential impacts of the proposed activities on habitat quality, arrangement, and distribution.

3. Lack of Clarity in Design Features Is Likely to Cause Them to Be Ineffective

There are 17 design features focused on fisher (draft EA, p. 136-140, Wildlife 15-31). To be effective, these design criteria must be clearly stated so that subsequent managers can apply them appropriately. This means that the terms used must be clearly defined and consistently applied. We noted concerns about habitat definitions in the section above and want to highlight additional terms used in Appendix 3 that should be clarified:

Wildlife 22, 23, 24, 25: These measures refer to “corridors” but these are not defined and are not identified on the landscape. What is the nature of a corridor (width, location, etc.) that should be the target of these measures?

Wildlife 28: This measure mentions the location for application is “both known and potential den clusters” but the terms are not defined.

Wildlife 29: This measure refers to “fisher refugia patches” as the location for application, but this term is not defined.

We also note that an important design feature from the existing forest plan is missing from Appendix 2. The application of a limited operating period is mentioned in Wildlife 31 for “den site buffers.” A design measure should also be included to address management actions in den site buffers. The current forest plan requires that:

Avoid fuel treatments in fisher den site buffers to the extent possible. If areas within den site buffers must be treated to achieve fuels objectives for the urban wildland intermix zone, limit treatments to mechanical clearing of fuels. Treat ladder and surface fuels to achieve fuels objectives. Use piling or mastication to treat surface fuels during initial treatment. Burning of piled debris is allowed. Prescribed fire may be used to treat fuels if no other reasonable alternative exists.

(USDA Forest Service 2004, p. 61 standard 86). The design feature should also explain that a “den site buffer” is described in the forest plan as:

Fisher den sites are 700-acre buffers consisting of the highest quality habitat (CWHR size class 4 or greater and canopy cover greater than 60 percent) in a compact arrangement surrounding verified fisher birthing and kit rearing dens in the largest, most contiguous blocks available.

(USDA Forest Service 2004, p. 39).

4. A Revised Design Feature Is Needed to Protect Denning Habitat

Based on our review of the baseline conditions and the project's potential impacts, the project is likely to have significant impacts on fisher habitat and its ability to persist in the project area. This is because of the extremely low levels of habitat required for denning and the additional reductions in habitat quality expected from project activities like "green tree thinning and fuel reduction" that further reduce canopy cover. Above we note that these significant impacts to habitat quality must be disclosed in the environmental analysis.

We also ask that you adopt the following design feature to ensure protection and conservation of the remaining denning habitat and lessen the impacts on this species:

In areas defined as **high-quality and potential fisher denning habitat**, limit vegetation management activities to hazard tree abatement, surface and ladder fuel treatment, single-tree selection for the purpose of separating tree clumps, and low-intensity prescribed fire. Use methods that do not fundamentally change stand structure, canopy cover, or California Wildlife Habitat Relationship category. Retain multistory conditions and understory heterogeneity (both vertical and horizontal) where ecologically appropriate.

The underlined term in the measure above would need to be defined. The revised forest plan of the Sierra National Forests provides a definition of these terms that is based on forest type and CWHR canopy cover and class (USDA Forest Service 2022, p. 52). Alternatively, the habitat modeling from Thompson et al. (2021) could be applied and the design feature rewritten as follows:

In areas defined as **high-quality and moderate quality reproductive habitat**, limit vegetation management activities to hazard tree abatement, surface and ladder fuel treatment, single-tree selection for the purpose of separating tree clumps, and low-intensity prescribed fire. Use methods that do not fundamentally change stand structure, canopy cover, or California Wildlife Habitat Relationship category. Retain multistory conditions and understory heterogeneity (both vertical and horizontal) where ecologically appropriate.

The point in either case is to protect denning habitat that is suitable and not limit protection to simply the highest quality. This inclusion is important because of the low amount of denning habitat available as a result of the recent wildfires and beetle mortality.

V. Completing a Programmatic Environmental Assessment (PEA)

In our comments above, we have asked that the analysis of effects be revised to disclose the baseline conditions and potential impacts from habitat reduction in a landscape where habitat is now highly limited. The discussion of implementation in the draft EA, you indicate that the large size of the project area limited your ability to complete site level surveys. If the size of the project area or other constraints limit your ability to complete the additional analysis of effects

for at-risk species associated with old forests, then we suggest that this draft EA be turned into a programmatic document. The more detailed analysis for old forest species at-risk could be completed for the subproject areas identified in the draft EA (p. 13) at the same time as the programmatic document. The first decision notice could approve the programmatic document and approve activities in the subproject areas identified in the draft EA (p. 13). Subsequent decision notices could be staged when the effects analysis for old forest species in future subproject treatment areas is completed. This approach is similar that used for a project being undertaken on the Cherokee National Forest, Restoration of Dry Forest Communities on the South Zone of the Cherokee National Forest (<https://www.fs.usda.gov/project/?project=55303>).

V. Recommendations for Public Participation During Implementation

If a programmatic EA is not pursued, as suggested above, we recommend the following steps for public participation. These are synchronized with the 6 steps of the implementation process described in the draft EA (p. 14). The following assumes that the Forest Service will create and manage a project website where materials will be posted.

Forest Service Action	Public Engagement
1. Identify and map “subproject” boundaries	Post on project website: 1) Subproject boundaries and generalized treatment areas on project website; 2) Explanation of how these areas met the prioritization process noted in draft EA (p. 12) Notify interested parties that the information is available and invite feedback on locations.
2. Field verification of conditions and treatments to be applied (for example, reforestation pathway or specific silvicultural prescription)	Post on project website a map of the specific units and a table or text characterizing the treatments Notify interested parties that the information is available.
3. Interdisciplinary Coordination, NEPA consistency review, and application of design features	
4. Public information, consultations, and permitting	Post on project website a summary of the conclusions from the interdisciplinary review (step 3). Notify interested parties that the information is available and invite feedback on summary.
5. Finalize implementation plan (contract, burn plan, and other implementation instruments).	
6. Pre-Implementation Notifications	

VI. Incidental Comments

We note that the vegetation report mentions the presence of Douglas fir in the project areas (Vegetation Report, p. 36: “Russell et al. (2006) shows that ponderosa pine has a snag fall rate of 7 to 10 years, while Douglas-fir has a snag fall rate of 12 to 16 years. **Both species** are found in the project area.” emphasis added). It is our understanding that Douglas fir does not occur south of Yosemite National Park and as such does not occur in the project area (https://www.srs.fs.usda.gov/pubs/misc/ag_654/volume_1/pseudotsuga/menziesii.htm). If this reference in the report is to an atypical occurrence of Douglas fir in the southern Sierra Nevada, please note this in the report.

The BE/BA addresses impact to Sierra marten and indicates that “Direct effect to denning marten are unlikely as **design features require surveys** and a limited operating period around active den sites.” (BE/BA, p. 18; emphasis added). We are unaware of any project related survey requirement for marten. We were also not able to find a design feature that addressed marten specifically. This statement should be clarified in the revised BE/BA.

We appreciate the opportunity to provide comments on this project. We would very much like to meet with you to discuss our concerns and the solutions we have suggested.

Sincerely,



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