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January 11, 2016

Mr. Kevin Elliott – Forest Supervisor  
Sequoia National Forest and  
Giant Sequoia National Monument  
1839 South Newcomb Street  
Porterville, CA 93257



cc: **Desirae Watson & Chris Nagano (USFWS)**  
**Eric LaPrice, Alfred Watson**

Subject: Second Request to Re-Evaluate Projects in the Sequoia National Forest Based on Significant Additional Information about their Effects on the Pacific Fisher

Mr. Elliott,

Please carefully consider the following information on behalf of Sequoia ForestKeeper, the John Muir Project of Earth Island Institute, the Center for Biological Diversity, and the Kern-Kaweah Chapter of the Sierra Club. We request a written response by no later than the end of February, 2016, or we will consider our request for supplemental NEPA analysis denied.

Eighteen months ago, on March 27, 2014, we wrote to you to re-consider several projects based on new information about the effects from thinning and burning on Pacific fisher habitat. *See Attachment A, hereto.* We received your response, but we renew our request to reanalyze the Forest Service's projects (Rancheria and Frog) based on that information, and also request supplemental NEPA analysis based on additional significant information presented in this letter.

Since our original request, the Forest Service is planning two new large thinning, logging, and burning projects and has completed a third in the Greenhorn Mountains in the vicinity of the community of Alta Sierra, directly adjacent to the Rancheria and Frog projects we discussed in our original request. Together, these newly planned activities, in combination with the Rancheria, Frog, and other nearby activities, are likely to significantly affect the Pacific fisher's habitat in a manner not previously considered, based on the Forest Service's own scientific research regarding the Pacific fisher's tolerance to restorative treatments of the scale and duration proposed. We also believe that these activities and their potential to impede fisher migration through the central portion of the Greenhorn Mountains would have drastic effects on genetic exchange of fishers in an area where the species' genetic diversity is its highest. If the Forest Service continues to advance these projects as designed, they must consult with the U.S. Fish & Wildlife Service as to these specific threats and because the fisher is likely to be officially listed under the ESA as of April 7, 2016.

Therefore, we strongly urge the Forest Service to re-analyze both the Rancheria and Frog projects by supplementing each NEPA analysis to consider this significant additional information before proceeding with further implementation of any logging, thinning, or other

treatments. Moreover, we believe that the Forest Service must make significant changes to these projects, or the activities will adversely modify the fisher's proposed critical habitat and may also lead to a take of fishers in the Greenhorn Mountains.

At the time we submitted our original letter, we were unaware of additional scientific research in the form of a report by lead author William J. Zielinski, titled "An assessment of fisher (*Pekania pennanti*) tolerance to forest management intensity on the landscape." Zielinski et al. (2013b) (*see* Attachment B, hereto) (hereafter, the "Fisher Tolerance Study"). This study is highly relevant to the Rancheria and Frog projects, and the study's findings have not yet been considered or analyzed in each respective NEPA analysis.

#### Additional Information from the Zielinski et al. (2013b) Study

The Fisher Tolerance Study sought to determine "whether fishers tolerate the amount of management-related disturbance that fire ecologists predict will be sufficient to reduce the severity and spread rate of fires." *Id.*, p. 821 (Abstract). The study compared an estimate of fisher abundance with data on the amount of disturbance associated with either "restoration" activities (e.g., thinning, prescribed fire) or timber harvest (e.g., clear cutting, selection harvest) or a combination of both. *Id.* It generated a 3-year running average of the total number of hectares (and acres) affected by management activities each year. The study determined that fishers occupy habitat at the highest rates where the total of restorative treatments and timber harvest "are applied at rates that do not exceed about 13% of an area in 5 years ...." or an average of 2.6% of the area per year. *Id.*, pp. 822 & 825.<sup>1</sup>

On the other hand, fisher use was lowest in areas that had a somewhat greater average area treated each year (49.3 ha/year over 1400 ha) or when 3.5% of the area has been disturbed per year. The study suggested "that as the area treated increases, fishers may respond by using these areas less frequently." *Id.*, p. 825. It noted that the "evidence suggest that fishers may spend less time ... in areas that have received more treatment and where the treatment is more intensive." *Id.* In other words, as the rate of treatment increases from 2.6% of an area per year, the fisher's use declines, with data showing the lowest use when an area was treated at 3.5% per year.

In referring to the 2.6 % treatment rate, the study stated that "[t]his is more disturbance than was predicted to be necessary to treat forests to reduce fire spread rate and severity in the southern Sierra Nevada, but less than predicted to be necessary by fire models for other geographic locations. Our work suggests that it may be possible to implement restorative treatments at an extent and rate that achieves fire modeling goals and does not affect occupancy by fishers. Implementation of such an approach, however, should also consider protection of large trees (conifers and hardwoods) used as resting and denning sites and account for the maintenance of habitat connectivity." *Id.*, p. 821.

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<sup>1</sup> It should be noted that the study also refers to "an average of 7.4 ha of disturbance/year/km<sup>2</sup> (47.1 acres of disturbance/year/mi<sup>2</sup>)." *Id.*, pp. 822 & 825. This is an error. In a follow-up e-mail about this reference, Dr. Zielinski informed René Voss, after consulting with his co-authors, that these figures were carried forward from an earlier draft and were in error, one which the authors intend to correct in an upcoming errata. *See* Attachment C (e-mail from Zielinski to Voss). Mr. Zielinski verified that the correct figure to use is the 2.6% average per year. *Id.*

In other words, as it relates to the issues in this letter, it is important that managers consider the extent and rate of treatments and logging to determine the fisher's tolerance to these activities and also ensure that habitat connectivity is maintained (discussed further below), neither of which the Forest Service has done for Rancheria or Frog.

The study also makes note that while fishers showed no aversion to including treated areas within their home ranges, it found that "fishers avoided using treated areas when resting and foraging." *Id.*, p. 825 (citing the Garner (2013) study). In other words, while fishers may still use untreated and connected habitat areas that include interspersed treated areas, as we suggested in our first letter, it is likely that fishers will avoid the treated areas. But this also means that where the Forest Service has plans for treatments or timber harvests over large contiguous areas, such as the Rancheria Project area, fisher will likely avoid the entire area after treatments.

### The Forest Service's Inadequate and Inaccurate Response to the Garner (2013) Study

In its May 14, 2014 response to our first letter, the Forest Service wrote, and we agree, that the Garner (2013) study "shows that fisher continue to include treated areas in their home range (Garner p. 41)"; however, the Forest Service's conclusion that immediately follows is not consistent with that study or the scientific consensus from fisher experts, that "therefore, post-treatment habitat is not considered unsuitable." FS Response, p. 5 (Attachment C, hereto).

In our research and our discussions with fisher experts, including Dr. Zielinski, we found that there is no scientific support for the conclusion that areas that have been thinned at any intensity are not considered unsuitable. Moreover, there was no support that a limited operating period (LOP) during implementation, as suggested, somehow mitigated the concerns that fishers avoided thinned areas. In other words, the consensus by the scientists and the scientific literature is that fishers conclusively avoided thinned areas after thinning treatments, as Garner discusses, not just during treatment implementation, regardless of the intensity of the thinning treatments.

Moreover, the Forest Service's May 14, 2014 response to our first letter asserted that "it is important to note that regional monitoring efforts for fisher in the Southern Sierra Fisher Conservation Area from 2002 to 2013 have found evidence of fisher use of stands in the Ice Fuels Reduction and Timber Sale Project both before and after thinning in 2005, as well as after subsequent underburning." *Id.*, p. 5. Again, we checked with fisher experts and none of them had knowledge of any data that showed that fishers used stands after they were thinned. Instead, they pointed to the Garner study as evidence to the contrary that fishers avoided areas that were thinned. These scientists knew of no "evidence that fishers will continue to use treated areas within their home ranges," as the letter suggest. *Id.* With respect to underburning and wildland fire, there is evidence that fishers will use unthinned stands after they were underburned and after experiencing mixed-intensity fire (*see* Zielinski et al. (2013b), p. 825; Hanson (2013); Hanson (2015)) but there is little or no evidence that fishers used stands that were thinned and then later underburned.

Applying Zielinski (2013b) (Fisher Tolerance) and Garner (2013) (Fisher Avoidance) to the Rancheria and Frog Projects

To determine whether the Rancheria and Frog projects might exceed the tolerance rates discussed in Zielinski (2013b), we must first make an assumption about how long we expect it to take the Forest Service to implement each project. We believe it safe to assume that, based on implementation of the Ice Project, it will likely take between 3-10 years to implement each project.

The total Rancheria Project area includes 5,880 acres, all of which is considered fisher habitat, although that includes 381 acres of chaparral that will not be treated.<sup>2</sup> Mechanical thinning and hand thinning with subsequent underburning or jackpot burning are proposed on the remaining areas, which are contiguous. Therefore 5,499 acres (or 93.5%) of the 5,880 area will receive logging/thinning or other fuel treatments. According to the Forest Service, the operator has not yet started logging or treating the Rancheria project area.

The total Frog Project area originally included 7,100 acres, but 1,000 of those acres burned at moderate to high severity in the McNally Fire, leaving 6,100 acres of fisher habitat to be addressed by the Frog Project. Of that total, the original project proposed to treat 1,680 acres but the project was modified to exclude 190 acres of the burned areas, which was salvage logged, and 180 acres were removed for a spotted owl PAC, leaving 1,260 treatment acres.<sup>3</sup> Therefore 1,260 acres (or 20.1%) of the 6,100 acre habitat area will receive logging/fuel treatments. According to the Forest Service, the operator began logging and treating the Frog project area in 2015, although it is unclear how much of that was completed.

Again, fishers tolerated 2.6%/year (or 16.6 acres/mi<sup>2</sup>/year) at high levels, but areas with treatments of 3.5%/year (or 22.35 acres/mi<sup>2</sup>/year) showed much lower levels of fisher use.

Here are the total treatment rates for Rancheria and Frog:

Project	Total Fisher Habitat Acres	Treatment Acres in Fisher Habitat	Total % of Habitat	Average of 3-year impl. rate in acres/mi <sup>2</sup> & (%) per year	Average of 5-year impl. rate in acres/mi <sup>2</sup> & (%) per year	Average of 10-year impl. rate in acres/mi <sup>2</sup> & (%) per year
Rancheria	5,880 ac (9.17 mi <sup>2</sup> )	5,499 ac	93.5%	199.9 ac/mi <sup>2</sup> <b>(31.2%) /year</b>	119.9 ac/mi <sup>2</sup> <b>(18.7%) /year</b>	60.0 ac/mi <sup>2</sup> <b>(9.35%) /year</b>
Frog	6,100* ac (9.53 mi <sup>2</sup> )	1,260** ac	20.1%	44.1 ac/mi <sup>2</sup> <b>(6.7%) /year</b>	26.4 ac/mi <sup>2</sup> <b>(4.0%) /year</b>	13.2 ac/mi <sup>2</sup> <b>(2.0%) year</b>

\* Only estimated fisher habitat acres are included, subtracting out 1,000 acres burned in the McNally Fire at high- to moderate-severity.

\*\* These are the acres remaining after removing salvage acres after the McNally Fire (-190 acres) and acres removed for a spotted owl PAC (-180 acres) from the original 1,680 acres.

<sup>2</sup> From Rancheria Project EA, p. 17 (see Attach. E3).

<sup>3</sup> Revision of the Frog Project Area Analysis EA, p. 6 (see Attach. E3).

Regardless of the number of years it will take to implement the Rancheria Project, its implementation at any rate will greatly exceed the annual treatment rates that fishers will tolerate. Moreover, because there are essentially no breaks between the hand and mechanical thinning treatment areas, fishers will likely completely avoid the entire Rancheria Project area for many years to come.

And depending on how long it will take to implement the Frog Project (we estimate it would not take more than a total of 3-5 years), the Frog Project will also exceed the annual treatment rates that fishers will tolerate, unless treatments are scheduled out over 10 years. After treatment implementation fishers will likely avoid 20.1% of their original habitat in the Frog Project area but may still use the remaining habitat, but at lower numbers.

What is important to note here, is not whether there is a firm threshold level where fishers may no longer use the project area, based on the Zielinski et al. (2013b) study, but that fisher use will directly decline when rates exceed or greatly exceed the 2.6% annual rate, and whether this issue has been considered and analyzed in the Rancheria and Frog NEPA analyses. It has not, and it is significant because there is a likely potential that fisher will either not tolerate the proposed treatments at all or, at a minimum, greatly reduce their use. Therefore this information is significant and requires a supplemental NEPA analysis. Moreover, because this information is significant, we aver that the Forest Service must reanalyze each project with a full EIS.

The Forest Service cannot rest on the conclusions it made in the Rancheria and Frog EAs, but instead has a continuing obligation to take a “hard look at the environmental effects of its planned action, even after a proposal has received initial approval.” *Marsh v. Oregon Nat. Res. Council*, 490 U.S. 360, 374 (1989). That continuing duty requires the Forest Service evaluate new information relevant to the environmental impact of its actions and then “make a reasoned determination whether it is of such significance as to require implementation of formal NEPA filing procedures.” *Warm Springs Dam Task Force v. Gribble*, 621 F.2d 1017, 1023, 1024 (9th Cir.1980).

#### New Information Regarding Additional Projects and their Impacts on Fisher Habitat and Habitat Connectivity in the Greenhorn Mountains

Since completion of the Rancheria and Frog NEPA analyses, the Forest Service has completed the Ice Project and has proposed two additional large projects that would have similar effects on fisher use of the Greenhorn Mountains: the Tobias and Summit projects. More recently, the Forest Service has broken the Summit project up, and is now planning to implement a part of the project as the “Summit CE,” proposing to categorically-exclude it from a full NEPA analysis. See Attachment D, p. 2 (proposal, stating: “The **Summit CE** project includes 1100 acres previously proposed for treatment within a larger project, the Summit Fuels Reduction and Forest Health Project.”). While these projects on their own will have effects on the fisher’s tolerance to the treatments proposed in those areas (and we have submitted comments to that effect for each project), these projects are located directly between the Rancheria and Frog projects, and so the cumulative effects from all of these projects will likely have a significant effect on fisher in the entire Greenhorn Mountains. These new projects represent significant new information with regard to the fisher tolerance in the entire Greenhorn Mountain range.

Moreover, their adjacency to the Rancheria and Frog (and implemented Ice Project) implicates habitat connectivity issues. Because the overall cumulative effects from these new projects on fisher tolerance as well as the habitat connectivity concern have not been addressed in Rancheria or Frog projects, these issues represent significant new information that must be considered and analyzed in supplemental NEPA documents for the Rancheria and Frog projects.

We provided a similar analysis in comments to the Forest Service with regard to the Summit project and also provided this information in supplemental comments with regard to the Tobias project.<sup>4</sup> They are equally relevant to the Frog and Rancheria projects.

The application of treatments on a larger scale in the fisher’s core habitat along the ridge in the Greenhorn Mountains south and north of Alta Sierra includes treatments in the Summit, Rancheria, Tobias, and Frog Projects (see Attachments E1, E2, and E3). The effects on fisher core habitat over the next 5-10 years are calculated in the Table below.

Project	Total Fisher Habitat Acres	Treatment Acres in Fisher Habitat	Total % of Habitat	Average of 5-year impl. rate in acres/mi <sup>2</sup> & (%) per year	Average of 10-year impl. rate in acres/mi <sup>2</sup> & (%) per year
Summit	10,000 ac (15.64 mi <sup>2</sup> )	2,500 ac	25%	32.0 ac/mi <sup>2</sup> (5.0%) /year	16.0 ac/mi <sup>2</sup> (2.5%) /year
Tobias	7,000* ac (10.93 mi <sup>2</sup> )	5,420 ac	77%	99.1 ac/mi <sup>2</sup> (15.4%) /year	49.6 ac/mi <sup>2</sup> (7.7%) /year
Rancheria	5,880 ac (9.17 mi <sup>2</sup> )	5,499 ac	93.5%	119.9 ac/mi <sup>2</sup> (18.7%) /year	60.0 ac/mi <sup>2</sup> (9.35%) /year
Frog	6,100* ac (9.53 mi <sup>2</sup> )	1,260** ac	20.1%	26.4 ac/mi <sup>2</sup> (4.0%) /year	13.2 ac/mi <sup>2</sup> (2.0%) year
<b>TOTALS</b>	<b>28,980 ac (45.28 mi<sup>2</sup>)</b>	<b>14,679 ac</b>	<b>50.7%</b>	<b>64.8 ac/mi<sup>2</sup> (10.14%) /year</b>	<b>32.4 ac/mi<sup>2</sup> (5.1%) /year</b>

\* Only estimated fisher habitat acres included

Cumulatively those treatment rates are nearly four times (after 5 years) or twice (after 10 years) the 2.6% average per year that fishers tolerate, and which, according to Zielinski et al. (2013b), if exceeded, “may put fisher habitat and fisher use of these areas at risk.”

With regard to habitat connectivity, the maps in the figures below provide a rough comparison of the core habitat the fisher uses in the Greenhorn Mountains and the projects, which are aligned along the top of the ridge where the core habitat exists. We were unable to directly overlay the projects onto the fisher core habitat map, but we believe it would show that the connectivity through the fisher’s habitat in the Greenhorn Mountains will be severely disrupted, given the fact that fishers will avoid treated areas. It may even isolate individual fishers at the southern-most part of their range, where they have the greatest genetic diversity. This additional concern has not been addressed in the Rancheria or Frog NEPA analyses and must be considered.

<sup>4</sup> We have adjusted the figures for the Frog project based on a closer analysis of the Revised Frog EA.

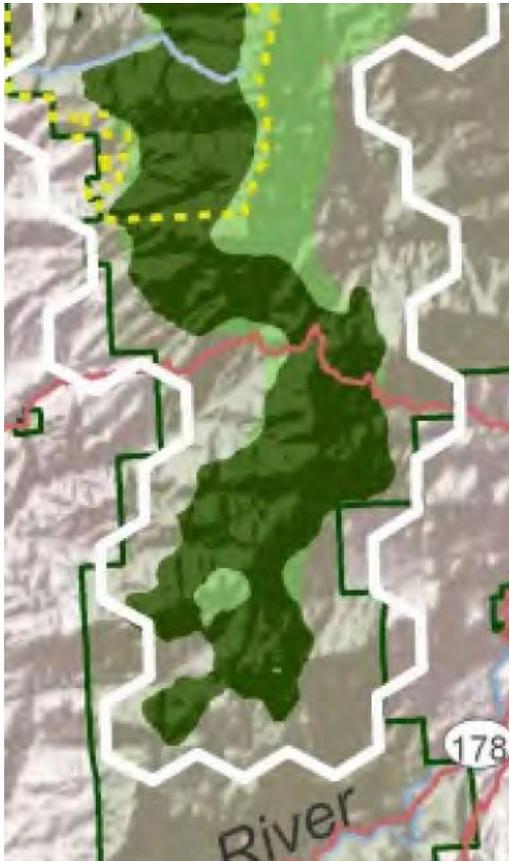


Fig. 1 – Core fisher habitat from Fisher Conservation Strategy, p. 13

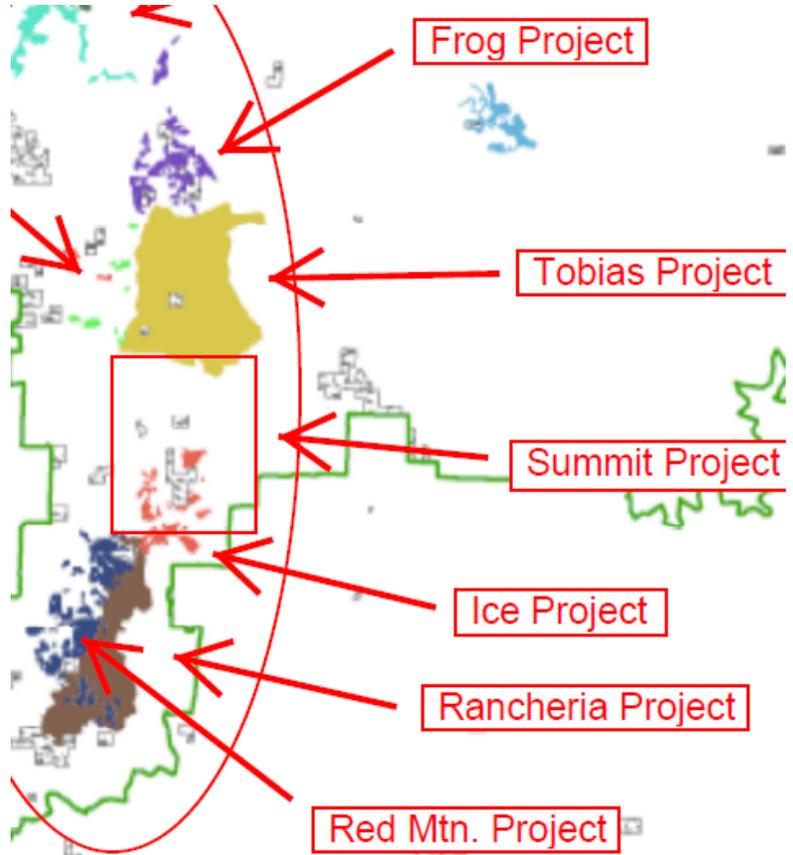
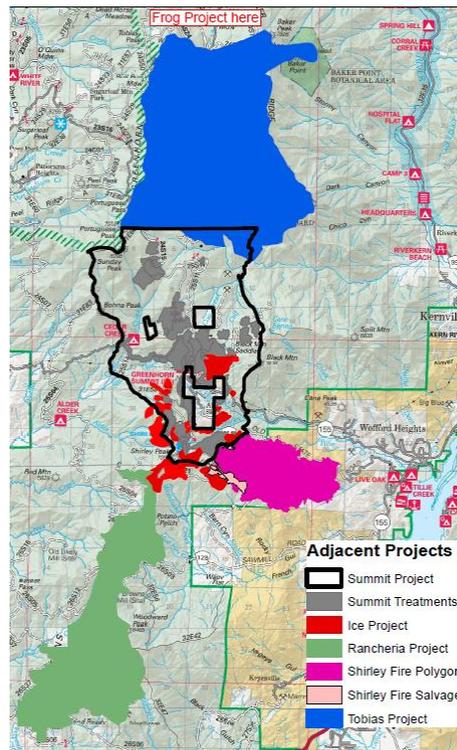


Fig. 2 – Cumulative Projects in the Greenhorn Mountains (see full-scale map as Attachment E2)

Fig. 3 – Filling in the Summit Project, depicted in grey (see full-scale map as Attachment E1).



Please respond to our request, in writing, by no later than the end of February, 2016, or we will consider our request for supplemental NEPA work denied.

For Sequoia ForestKeeper, the John Muir Project of Earth Island Institute, the Center for Biological Diversity, and the Kern-Kaweah Chapter of the Sierra Club,



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