



September 30, 2022

Eric LaPrice, District Ranger
Western Divide Ranger District
Sequoia National Forest

Sent via: https://www.fs.usda.gov/project/?project=62403

Re: Scoping Comments on the Windy Fire Project

Dear Mr. LaPrice,

On behalf of the John Muir Project of Earth Island Institute and Center for Biological Diversity, we are submitting these scoping comments opposing the proposed post-fire logging and unnecessary tree plantation establishment in the Windy fire area. We request that you withdraw the post-fire logging and artificial planting components of the proposal, and focus on hazard tree felling along main public roads, leaving felled hazard trees on the ground for wildlife habitat, carbon storage, and nutrient cycling.

**An EIS Must Be Prepared Due to the Magnitude of the Proect and Potential Significant Effects**

NEPA regulations indicate preparation of an EIS is warranted when there are likely to be significant effects to the environment and/or public safety. 40 CFR 1501.3(b). Below is a summary of numerous scientific sources, in chronological order, in three key subject areas that implicate both the impacted environment as well as public safety. Key findings are quoted and/or summarized, and sources authored or co-authored by U.S. Forest Service scientists are indicated in bold.

***Post-fire logging, as proposed in multiple giant sequoia groves, will kill most of the natural post-fire sequoia reproduction.***

Donato DC, Fontaine JB, Campbell JL, Robinson WD, Kauffman JB, Law BE. 2006. *Science* 311: 352.

> Over 70% of natural post-fire conifer regeneration killed by ground-based post-fire logging.

USFS. 2016. Rim Fire Reforestation Environmental Impact Statement. Stanislaus National Forest, Sonora, CA. p. 257.

> "Although plots were not visited both pre- and post-salvage logging, a large portion of the plots were completed in areas that were expected to be salvaged. This plot data suggests that salvage and fuels reduction operations that have occurred in the project area have reduced conifer regeneration density by 72% and oak regeneration by 26%."

***A large and growing body of scientific evidence and opinion concludes that post-fire logging/clearcutting makes wildfires spread faster and/or burn more severely, and this puts nearby communities at greater risk.***

Beschta, R.L.; Frissell, C.A.; Gresswell, R.; Hauer, R.; Karr, J.R.; Minshall, G.W.; Perry, D.A.; Rhodes, J.J. 1995. Wildfire and salvage logging. Eugene, OR: Pacific Rivers Council.

> "We also need to accept that in many drier forest types throughout the region, forest management may have set the stage for fires larger and more intense than have occurred in at least the last few hundred years."
>
> "With respect to the need for management treatments after fires, there is generally no need for urgency, nor is there a universal, ecologically-based need to act at all. By acting quickly, we run the risk of creating new problems before we solve the old ones."
>
> "[S]ome argue that salvage logging is needed because of the perceived increased likelihood that an area may reburn. It is the fine fuels that carry fire, not the large dead woody material. We are aware of no evidence supporting the contention that leaving large dead woody material significantly increases the probability of reburn."

Donato DC, Fontaine JB, Campbell JL, Robinson WD, Kauffman JB, Law BE. 2006. *Science* 311: 352.

> "In terms of short-term fire risk, a reburn in [postfire] logged stands would likely exhibit elevated rates of fire spread, fireline intensity, and soil heating impacts…Postfire logging alone was notably incongruent with fuel reduction goals."

Thompson, J.R., Spies, T.A., Ganio, L.M. (**co-authored by U.S. Forest Service**). 2007. Reburn severity in managed and unmanaged vegetation in a large wildfire. Proceedings of the National Academy of Sciences of the United States of America 104: 10743–10748.

> "Areas that were salvage-logged and planted after the initial fire burned more severely than comparable unmanaged areas."

Thompson, J., and T.A. Spies (**co-authored by U.S. Forest Service**). 2010. Exploring Patterns of Burn Severity in the Biscuit Fire in Southwestern Oregon. Fire Science Brief 88: 1-6.

> "Areas that burned with high severity…in a previous wildfire (in 1987, 15 years prior) were more likely to burn with high severity again in the 2002 Biscuit Fire. Areas that were salvage-logged and planted following the 1987 fire burned with somewhat higher fire severity than equivalent areas that had not been logged and planted."

DellaSala et al. (2013) (letter from over 200 scientists):

> "Numerous studies also document the cumulative impacts of post-fire logging on natural ecosystems, including…accumulation of logging slash that can add to future fire risks…"

DellaSala et al. (2015) (letter from over 200 scientists):

> "Post-fire logging has been shown to eliminate habitat for many bird species that depend on snags, compact soils, remove biological legacies (snags and downed logs) that are essential in supporting new forest growth, and spread invasive species that outcompete native vegetation and, in some cases, increase the flammability of the new forest. While it is often claimed that such logging is needed to restore conifer growth and lower fuel hazards after a fire, many studies have shown that logging tractors often kill most conifer seedlings and other important re-establishing vegetation and actually increases flammable logging slash left on site. Increased chronic sedimentation to streams due to the extensive road network and runoff from logging on steep slopes degrades aquatic organisms and water quality."

Bradley, C.M. C.T. Hanson, and D.A. DellaSala. 2016. Does increased forest protection correspond to higher fire severity in frequent-fire forests of the western USA? Ecosphere 7: article e01492.

> In the largest study on this subject ever conducted in western North American, the authors found that the more trees that are removed from forests through logging, the higher the fire severity overall:

> "We investigated the relationship between protected status and fire severity using the Random Forests algorithm applied to 1500 fires affecting 9.5 million hectares between 1984 and 2014 in pine (*Pinus ponderosa*, *Pinus jeffreyi*) and mixed-conifer forests of western United States, accounting for key topographic and climate variables. We found forests with higher levels of protection [from logging] had lower severity values even though they are generally identified as having the highest overall levels of biomass and fuel loading."

Hanson, C.T. 2021. Is "Fuel Reduction" Justified as Fire Management in Spotted Owl Habitat? Birds 2: 395-403.

> "Within the forest types inhabited by California Spotted Owls, high-severity fire occurrence was not higher overall in unmanaged forests and was not associated with the density of pre-fire snags from recent drought in the Creek Fire, contrary to expectations under the fuel reduction hypothesis. Moreover, fuel-reduction logging in California Spotted Owl habitats was associated with higher fire severity in most cases. The highest levels of high-severity fire were in the categories with commercial logging (post-fire logging, private commercial timberlands, and commercial thinning), while the three categories with lower levels of high-severity fire were in forests with no recent forest management or wildfire, less intensive noncommercial management, and unmanaged forests with re-burning of mixed-severity wildfire, respectively."

***The only effective way to protect homes from fire is home-hardening and defensible space pruning within 100 to 200 feet of homes or less.***

Cohen, J.D. (**U.S. Forest Service**). 2000. Preventing disaster: home ignitability in the wildland-urban interface. Journal of Forestry 98: 15-21.

> The only relevant zone to protect homes from wildland fire is within approximately 135 feet or less from each home—not out in wildland forests.

Gibbons P, van Bommel L, Gill MA, Cary GJ, Driscoll DA, Bradstock RA, Knight E, Moritz MA, Stephens SL, Lindenmayer DB (2012) Land management practices associated with house loss in wildfires. PLoS ONE **7**: Article e29212.

> Defensible space pruning within less than 130 feet from homes was effective at protecting homes from wildfires, while vegetation management in remote wildlands was not. A modest additional benefit for home safety was provided by prescribed burning less than 500 meters (less than 1641 feet) from homes.

Syphard, A.D., T.J. Brennan, and J.E. Keeley. 2014. The role of defensible space for residential structure protection during wildfires. Intl. J. Wildland Fire 23: 1165-1175.

Vegetation management and removal beyond approximately 100 feet from homes provides no additional benefit in terms of protecting homes from wildfires.

***Tree removal is not necessary prior to conducting prescribed fire as an additional community safety buffer.***

Decades of scientific studies have proven that, even in the densest forests that have not experienced fire in many decades, prescribed fire can be applied without prior tree removal, as demonstrated in the following studies:

Knapp EE, Keeley JE, Ballenger EA, Brennan TJ. 2005. Fuel reduction and coarse woody debris dynamics with early season and late season prescribed fire in a Sierra Nevada mixed conifer forest. Forest Ecology and Management 208: 383–397.

Knapp, E.E., and Keeley, J.E. 2006. Heterogeneity in fire severity within early season and late season prescribed burns in a mixed-conifer forest. Int. J. Wildland Fire 15: 37–45.

Knapp, E.E., Schwilk, D.W., Kane, J.M., Keeley, J.E., 2007. Role of burning on initial understory vegetation response to prescribed fire in a mixed conifer forest. Canadian Journal of Forest Research 37: 11–22.

van Mantgem, P.J., A.C. Caprio, N.L. Stephenson, and A.J. Das. 2016. Does prescribed fire promote resistance to drought in low elevation forests of the Sierra Nevada, California, USA? Fire Ecology 12: 13-25.

van Mantgem, P.J., N.L. Stephenson, J.J. Battles, E.K. Knapp, and J.E. Keeley. 2011. Long-term effects of prescribed fire on mixed conifer forest structure in the Sierra Nevada, California. Forest Ecology and Management 261: 989−994.

**<u>An EIS Must Be Prepared Due to Impacts to Spotted Owls</u>**

Current research confirms severe adverse impacts to spotted owls from post-fire logging, and neutral or positive effects from big wildfires in the absence of post-fire logging (Hanson et al. 2018, Lee 2020, Hanson et al. 2021).

**<u>Critical Habitat Must Be Designated for the Pacific Fisher</u>**

The U.S. Fish and Wildlife Service has not yet finalized its proposal to designate critical habitat for the southern Sierra Nevada Pacific fisher under the Endangered Species Act (ESA). Logging should not occur until critical fisher habitat is finalized and impacts to both the fisher and its critical habitat analyzed and consulted on under the ESA.

**An EIS Must Be Prepared Due to Impacts to the Pacific Fisher**

NEPA regulations indicate that the preparation of an environmental impact statement (EIS) is likely necessary when a project may impact a species listed under the ESA. 40 CFR 1501.3(b)(1). The southern Sierra Nevada Pacific fisher is listed under the ESA as endangered and inhabits the proposed project area; thus, an EIS, not an EA, should be prepared here. Nowhere does the scoping notice divulge the amount of "take" of fishers that would result from the Project, and there is no reference to any Biological Opinion (BO) from US Fish and Wildlife Service for this Project.

General avoidance of fisher den sites is insufficient to avoid potentially significant impacts. Fishers depend on much more than 700-acre den sites for their survival. Fisher home ranges cover several thousand acres, not several hundred (Zielinski et al. 2004), and they are adversely impacted by management activities that affect or degrade their foraging habitat (Garner 2013)—the areas they use for hunting to obtain the food they need for survival. Therefore, the question is, where do fishers forage and would the Project affect such areas?

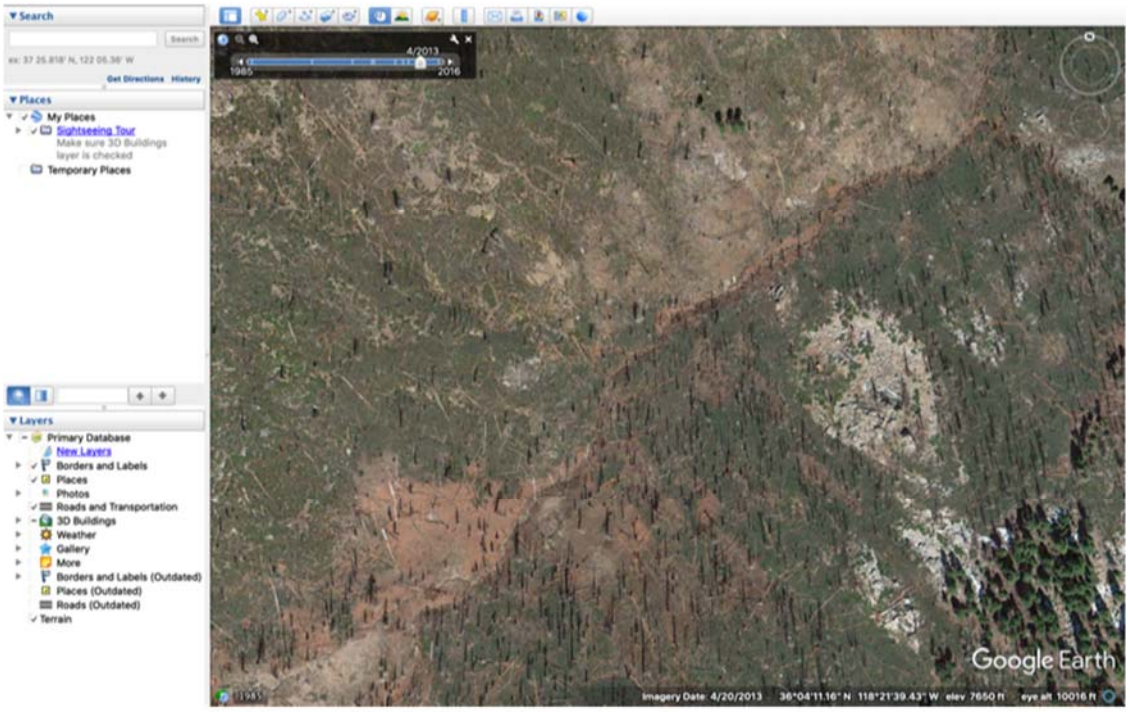
Dr. Hanson has published multiple peer-reviewed studies regarding SSN fishers and wildland fire. In 2012, he began extensive field research with two "scat dog" teams on the Kern Plateau of Sequoia National Forest to investigate the relationship between Pacific fishers, forest structure, and wildland fire. Each scat dog team consists of a rescue dog that has been highly trained to detect the scat (excrement) of a particular imperiled wildlife species, and the dog's human handler. In this case, the dogs had been trained to detect Pacific fisher scat. Dr. Hanson used this approach to determine the frequency/infrequency of fisher scat along transects (routes traveled through the forest by the teams) in different habitat conditions, which yielded the basis to determine fisher habitat selection or avoidance patterns. Dr. Hanson found that Pacific fishers were positively associated with dense, mature forests (particularly mixed-conifer forests) that were unburned and dense, mature forests that had experienced mixed-intensity wildfires, while they avoided lower-density forests with less biomass of live and dead trees (Hanson 2013). On the edges of fire areas, fishers selected the within-fire side over the unburned side of fire edges and, when entirely inside fire areas, fishers selected forests with larger proportions of high-intensity fire (high-intensity fire areas are patches where the fire killed most or all of the trees). The fire areas studied had not been subjected to post-fire logging.

Dr. Hanson conducted a follow up fisher scat dog study in 2013, gathering additional data within the McNally fire, which burned across more than 150,000 acres in 2002 in the Kern Plateau area, and once again focusing surveys in areas that had not been subjected to post-fire logging. Dr. Hanson found that female fishers, in particular, positively selected the McNally fire over adjacent unburned forest (Hanson 2015). In fact, female fisher scat frequency was 0.29 per kilometer in areas that were more than 250 meters inside the interior of the largest high-intensity fire patch in the McNally fire, compared to 0.19 per kilometer in adjacent unburned forest (Hanson 2015). Moreover, Dr. Hanson found numerous male and female fisher scats deep within (several kilometers or more) the interior of the McNally fire, indicating that these fishers were denning and foraging entirely within the fire area, based upon the home range size of fishers (Zielinski et al. 2004).

The conclusion that Dr. Hanson drew from this fisher research is that fishers benefit from the "bed and breakfast effect" created by mixed-intensity fire. They use dense, mature/old conifer forests that are either unburned or more lightly burned for denning and resting (the "bed"), while they actively forage and hunt in the "snag forest habitat" (the "breakfast") created when higher-intensity fire occurs in dense, mature/old forest (Hanson 2013, 2015). These snag forest habitat areas, which this research concludes are suitable foraging habitat for the SSN fisher, are characterized by an abundance of fire-killed trees ("snags"), downed logs (when snags fall), patches of native shrubs, and areas of natural post-fire regeneration of conifer seedlings/saplings and oaks. The high abundance of snags, downed logs, and lush post-fire understory regrowth provides outstanding habitat for small mammal species upon which fishers depend for their food, and small mammal abundance can be 2 to 6 times higher in snag forest habitat compared to unburned mature forest (Ganey et al. 2014). The natural and historical fire regime in forests inhabited by Pacific fishers is mixed-intensity fire, where small and large patches of high-intensity fire occur at significant proportions (typically 22% to 39%) within a mosaic of low- and moderate-intensity fire effects, where most mature trees and many small trees survive the fire (Baker 2014, Hanson and Odion 2016a, Hanson and Odion 2016b, Baker and Hanson 2017, Baker et al. 2018).

Dr. Hanson also concluded from this research that, by removing much of the forest canopy cover and many/most of the trees, commercial "thinning" logging operations degrade and harm the dense, mature/old forests upon which fishers depend for denning/resting, while post-fire logging operations degrade and harm the snag forest habitat which fishers actively use for foraging, because such post-fire logging removes most of the snags, downed logs, and native post-fire understory regrowth that the fisher's small mammal prey species need for their habitat (Hanson 2013, 2015). In other words, the U.S. Forest Service's duel program of targeting dense, mature/old forests with commercial thinning, while targeting snag forest habitat with post-fire logging, is a "double-whammy" adverse impact to Pacific fishers. These scientific findings have been acknowledged by the U.S. Fish and Wildlife Service in its decision to list the SSN fisher as endangered. *See* 85 Fed. Reg. 29540, 29564.

The Thompson et al. (2021) study, which reported lower fisher use of moderate/high-severity fire patches shortly after two fires, fails to mention that many of the moderate/high-severity fire areas studied in the Aspen and French fires had been post-fire logged, and it falsely claimed in the discussion section that the fisher detections in Dr. Hanson's studies were not actually in high-severity fire patches, but provided no data to support this statement. Below is satellite imagery showing the locations, in the center of the image, of multiple fisher detections hundreds of meters inside a large high-severity fire patch (unlogged) in the McNally fire area, and an on-the-ground photo of one of these locations is found, in color, in Hanson (2015).




**Recent Research Shows An EIS Must Be Prepared Due to Impacts to the Forest and Wildlife**

Recent research conducted by Point Blue (Fogg et al. 2022) finds that post-fire logging in the Sierra Nevada results in far more declines in complex early seral forest bird species than increases (3 to 1 ratio of declines to increases). Additional Point Blue research further finds that herbicide spraying in post-fire logged and planted areas was ineffective at promoting post-fire conifer regeneration and, in fact, conifer regeneration was numerically lower overall in post-fire logged/herbicide-sprayed/planted areas as compared to control forests that were not subjected to post-fire logging/spraying/planting (Point Blue 2021, see Figs. 3c and 3d). Similarly, research has found abundant post-fire conifer regeneration in the interior of large, unmanaged (no post-fire logging, herbicide spraying, or planting) high-severity fire patches (Hanson 2018, Hanson and Chi 2021).

Sincerely,

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