



October 25, 2010

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RE: Scoping Comments, Frazier Mountain Project

Dear Greg:

Thank you for this opportunity to provide the U.S. Forest Service with our comments on the proposed Frazier Mountain Project ("Project"). Los Padres ForestWatch is an independent, local nonprofit organization working to protect public lands along California's Central Coast, including the Los Padres National Forest. We are supported by more than 800 individuals, local businesses, landowners, and forest users. We support efforts to improve ecosystem health and resiliency, and to protect communities from wildfire. To that end, we work to ensure that vegetation removal projects are undertaken with minimal impacts to water supplies, sensitive plants and animals, and other forest resources.

The Project proposes commercial logging, mechanical vegetation removal, prescribed burns, and fuelbreak construction on 2,386 acres between Chuchupate Campground and the top of Frazier Mountain on the Mt. Pinos Ranger District of the Los Padres National Forest. Specifically, the Project entails the following components:

- **Commercial Timber Sale** on 1,040 acres with ground-based tractor logging systems, including the construction of approximately forty landings and 2.4 miles of temporary roads;
- **Precommercial Thinning** on 241 acres of pine plantations by hand or machine pile and burning or jackpot burning;
- **Fuelbreak Construction** approximately 7.5 miles long and up to 300 feet wide, treating approximately 220 acres using a combination of commercial thinning, non-commercial thinning, mastication of shrubfields, pile burning, jackpot burning and prescribed fire;
- **Prescribed Burns** on approximately 823 acres on the top of Frazier Mountain
- **Vegetation Removal** on 282 acres around Chuchupate Campground using mastication or burn, handpile/burn, and noncommercial thin/handpile/burn.

The stated goals of the project are to reduce fire hazard, reduce wildfire risk, reduce bark beetle risk and maintain the health of mature conifers and conifer plantations, and protect high value recreation areas. We generally support these goals, particularly the prescribed-burn only areas. However, we also want to ensure that the project incorporates the best

available science, incorporates mitigation measures to lessen the Project's environmental impacts, is fully evaluated in an environmental document, and complies with longstanding environmental protection laws. In terms of wildfire risk reduction, we would also like to see more of an emphasis of creating defensible space around structures and making communities "fire safe," rather than broad landscape-scale vegetation treatments far away from these structures that are not as effective. To that end, we hereby submit the following comments for your consideration and inclusion in the environmental document for this project.

Evaluation of Alternatives to Commercial Logging

The major component of this project entails commercial and pre-commercial tree removal. While the data provided in the scoping notice may indicate a need to remove some trees from Frazier Mountain, we would prefer that such tree removal be conducted using non-commercial procedures. This is because the impacts from a commercial logging operation are significantly higher than a non-commercial operation. Specifically, the following impacts result from commercial logging operations:

- Skid trails
- Landing areas
- Road wear caused by logging trucks
- Construction of temporary roads
- Removal of snags and woody debris

To avoid these impacts, while still achieving most if not all project objectives, we hope that the Forest Service analyzes an alternative that does not include a commercial logging operation. This may involve cutting trees and leaving them in place, or achieving tree mortality in some other way (i.e. girdling) to achieve desired snag and woody debris density. This will fulfill the requirement of NEPA to "[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated." 40 C.F.R. § 1502.14(a). This requirement applies to EAs as well as EISes, and also requires evaluation of a no-action alternative. 40 C.F.R. § 1502.14(d).

In addition, we would also like the environmental document to evaluate an alternative that focuses vegetation treatments in the "defensible-space" zone immediately surrounding structures and communities, in lieu of a 300-foot wide fuelbreak. The Proposed Action ("PA") for this project states that the nearest community (Frazier Park) is "4-5 miles" away from the Project area, and that this fuelbreak is designed to "serve as a point of control in the event of a wildfire" and as an "anchor point" for prescribed burning operations. PA at 11-12. While we understand the need to have an anchor point for prescribed burning operations, it is unclear from the Proposed Action why such an anchor point must be 300 feet wide.

In addition, constructing a 7.5-mile fuelbreak atop Frazier Mountain may not be as effective as focusing efforts on clearing defensible space around structures and high-use areas. In fact, the Forest Service's own expert concludes:

“Effective fuel modification for reducing potential WUI fire losses need only occur within a few tens of meters from a home, not hundreds of meters or more from a home. This research indicates that home losses can be effectively reduced by focusing mitigation efforts on the structure and its immediate surroundings.”

Cohen, J.D. 1999. Reducing the Wildland Fire Threat to Homes: Where and How Much? U.S.D.A. Forest Service Gen. Tech. Rep. PSW-GTR-173 (Exhibit 3). Retrofitting homes with fire-safe materials and design features is a necessary component of wildfire protection; without it, as this study points out, vegetation clearing would have to “potentially extend for several kilometers away from homes” to be effective. *Id.* Therefore, to achieve the Project's goal of reducing wildfire risk, the Project should incorporate, and provide assistance for, creating defensible space around structures, and use of fire safe materials and design features. This should be evaluated as an alternative to some of the vegetation removal proposed in the Project.

Finally, we hope that the environmental document evaluates an alternative that does not include the removal of large (i.e. 8-10 inches DBH or greater) trees from the project area. Recent scientific studies have found that precommercial thinning of sapling and pole-sized trees only (up to 8-10 inches in diameter) effectively reduces fire severity. For example, Omi and Martinson (2002) found that precommercial thinning of trees under 8 to 10 inches in diameter reduced potential for severe fire. Martinson and Omi (2003) found that non-commercial thinning of submerchantable-sized trees greatly reduced fire severity regardless of post-thinning basal area density. And Strom and Fule (2007) found that non-commercial thinning of very small trees under 8 inches DBH dramatically reduced fire severity, resulting in post-fire basal area mortality of only about 28% (low severity) in non-commercially thinned areas versus post-fire basal area mortality of about 86% in untreated areas. For these reasons, the Forest Service should evaluate a project that only targets for removal of trees 8-10 inches DBH or less.

In short, we ask that the Forest Service evaluate the following alternatives in the environmental document:

- Accomplishing project objectives without the use of commercial logging operations;
- Accomplishing project objectives while avoiding all large-diameter (i.e. 8-10 inches DBH or greater) trees, with a certain limited exception for safety hazards.
- Accomplishing project objectives using smaller fuelbreaks constructed by hand; and
- Emphasizing clearance of defensible space around structures in lieu of landscape-scale vegetation clearing far away from these structures.

Preparation of Environmental Impact Statement

Based on the context and intensity of the potentially significant impacts outlined below, we believe that the Forest Service should consider preparing an Environmental Impact Statement. *See* Forest Service NEPA Handbook §1909.15, Chapter 17 (“If the proposed action *may* have significant environmental effects, prepare an EIS.”) (emphasis added).

Disclose All Impacts and Benefits of Thinning

We support the use of prescribed fire, and, if necessary, careful thinning and removal of small diameter material and flammable brush in ecologically appropriate locations in order to help restore historic fire regimes. We urge the agency to avoid road building and prioritize such activities in the wildland-urban interface.

We support efforts to limit the initiation and spread of crown fires through the reduction of fine surface fuels and (partial) treatment of ladder fuels to increase the crown base height, but we oppose efforts to heavily thin the overstory canopy in an effort control crown-to-crown fire spread. The most significant effect of this type of heavy thinning is to increase the warming and drying of ground fuels and to increase the growth of ladder fuels, both of which significantly detract of the risk reduction objectives and are expensive to treat. The analysis must address the complex effects of thinning including tendencies to reduce and increase fire hazard.

The analysis should also address the fact that there is very little scientific support for aggressive thinning to reduce fire hazard. A report prepared for Congress stated: “We do not presume that there is a broad scientific consensus surrounding appropriate methods or techniques for dealing with fuel build-up or agreement on the size of areas where, and the time frames when, such methods or techniques should be applied” (US GAO RCED-99-65. 1999:56). A research report by Omi and Martinson (2002) states: “Evidence of fuel treatment efficacy for reducing wildfire damages is largely restricted to anecdotal observations and simulations.”

In fact, there is some scientific evidence that thinning can make the fuel hazard worse instead of better. Science still has a long way to go to be able to confidently predict the consequences of various combinations of thinning and other treatments. “Detailed site-specific data on anything beyond basic forest structure and fuel properties are rare, limiting our analytical capability to prescribe management actions to achieve desired conditions for altering fuels and fire hazard.” Graham, Russell T.; McCaffrey, Sarah; Jain, Theresa B.(tech. eds.) 2004. Science basis for changing forest structure to modify wildfire behavior and severity. Gen. Tech. Rep. RMRS-GTR-120. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 43 p.
http://www.fs.fed.us/rm/pubs/rmrs_gtr120.html

Thinning opens stands to greater solar radiation and wind movement, resulting in warmer temperatures and drier fuels throughout the fire season.

[T]his openness can encourage a surface fire to spread. USDA Forest Service; Influence of Forest Structure on Wildfire Behavior and the Severity of Its Effects, November 2003.

<http://www.fs.fed.us/projects/hfi/2003/november/documents/forest-structure-wildfire.pdf>

Opening up closed forests through selective logging can accelerate the spread of fire through them because a physical principle of combustion is that reducing the bulk density of potential fuel increases the velocity of the combustion reaction. Wind can flow more rapidly through the flaming zone. Thinned stands have more sun exposure in the understory, and a warmer microclimate, which facilitates fire (Countryman 1955).

...

[F]uel reduction activities – particularly mechanized treatments – inevitably function to disturb soils and promote the invasion and establishment of non-native species. Pile burned areas associated with the treatments are also prone to invasion (Korb et al. 2004). Annual grasses can invade treated areas if light levels are high enough, leading to increased likelihood of ignition, and more rapid spread of fire, which can further favor annual grasses (Mack and D’Antonio 1998). This type of feedback loop following the establishment of non-native plants may result in an altered fire regime for an impacted region, requiring extensive (and expensive) remedial action by land managers (Brooks et al. 2004).

Odion, Dennis. 2004. Declaration in NWEA v. Forest Service.

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

...

Thus, treatments that reduce canopy fuels increase and decrease fire hazard simultaneously. With little empirical evidence and an infant crown fire theory, fuel treatment practitioners have gambled that a reduction in crown fuels outweighs any increase in surface fire hazard....

Omi, P.N., and Martinson, E. J. 2002. Effect of fuels treatment on wildfire severity. Final report. Western Forest Fire Research Center. Submitted to the Joint Fire Science Program Governing Board <http://www.cnr.colostate.edu/frws/research/westfire/FinalReport.pdf>

The Forest Trust conducted a thorough literature review and found that:

- Although the assertion is frequently made that simply reducing tree density can reduce wildfire hazard, the scientific literature provides tenuous support for this hypothesis.
- The literature leaves little doubt, however, that fuel treatments can modify fire behavior. Thus, factors other than tree density, such as the distance from the ground to the base of the tree crown, surface vegetation and dead materials play a key role. Research has not yet fully developed the relationship among these factors in changing fire behavior.
- The specifics of how treatments are to be carried out and the relative effectiveness of alternative prescriptions in changing wildfire behavior are not supported by a significant consensus of scientific research at this point in time.
- Substantial evidence supports the effectiveness of prescribed fire, a treatment that addresses all of the factors mentioned above. Significantly, several empirical studies demonstrated the effectiveness of prescribed fire in altering wildfire behavior.
- By contrast, we found a limited number of papers on the effects of mechanical thinning alone on wildfire behavior. The most extensive research involved mathematical simulation of the impact of mechanical thinning on wildfire behavior. However, the results of this research are highly variable.
- A more limited number of studies addressed the effectiveness of a combination of thinning and burning in moderating wildfire behavior. The impacts varied, depending on the treatment of thinning slash prior to burning. Again, crown base height appeared as important a factor as tree density. The research community is still building a scientific basis for this combination of treatments.
- The proposal that commercial logging can reduce the incidence of canopy fire was untested in the scientific literature. Commercial logging focuses on large diameter trees and does not address crown base height – the branches, seedlings and saplings which contribute so significantly to the “ladder effect” in wildfire behavior.
- Much of the research on the effectiveness of fuel treatments uses dramatically different methodology, making a comparison of results difficult. To provide a basis for analysis, we structured our review of the literature into four general groupings: observations, case studies, simulation models and empirical studies. Empirical studies provide the strongest basis for evaluating treatments whereas personal observations are the least reliable.
- We found the fewest studies in the most reliable class – empirical research. We found the greatest number of studies in the least reliable class of research – reports of personal observation. Several other reviews of the literature confirm this finding, stating that the evidence of the efficacy of fuel treatment for reducing wildfire damage is largely anecdotal.
- The results of simulation studies are highly variable, in terms of such factors as fire spread, intensity and the occurrence of spotting and crowning.
- Scientists recognize that large scale prescribed burning and mechanical thinning are still experimental and may yet reveal unanticipated effects on biodiversity, wildlife populations and ecosystem function.

Henry Carey and Martha Schumann. Modifying WildFire Behavior – The Effectiveness of Fuel Treatments — The Status of Our Knowledge. April 2003; <http://www.theforesttrust.org/images/swcenter/pdf/WorkingPaper2.pdf>

The environmental document should disclose the scientific uncertainty surrounding fuel reduction and fire behavior, and should recognize that vegetation treatments can increase fine fuel loads while removing the large, fire-resilient logs that are relatively less prone to burn.

Protection of Plants & Wildlife

The Frazier Mountain region of Ventura County is a genetic hotspot for wildlife in southern California, based on a recently published study in the journal *Biological Conservation*. Vandergast et al. (2008) found that the Frazier Mountain area had a relatively high variance for genetic divergence based on a genetic study of 21 different species of wildlife, with representatives from invertebrates, amphibians, birds, mammals, and reptiles. This is in part due to the fact that Frazier Mountain is located at the crux of the San Andreas, Garlock, and Big Pine Faults, and the Tehachi Mountains/Sierra Nevada, Inner North Coast Ranges/San Rafael Mountains, Mojave Desert, and the eastern Transverse and Peninsular Ranges. This is a major factor explaining why this part of Ventura County is so biologically rich. Vandergast, Amy G., Andrew J. Bohonak, Stacie A. Hathaway, Joshua Boys, and Robert N. Fisher. 2008. Are Hotspots of Evolutionary Potential Adequately Protected in Southern California? *Biological Conservation* 141(6):1648-1664, June 2008.

As part of the environmental analysis for this project, we would like to ask the Forest Service to identify and survey to protocol all endangered, threatened, rare, sensitive, and at-risk species and all other species of concern.

The agency should focus the NEPA analysis on species that are most likely to be adversely affected by thinning, clearing, and burning — in most cases that is wildlife associated with relatively dense, closed-canopy forest conditions and those associated with snags and dead wood. Retain sufficient densities of large trees and woody debris to sustain viable populations of cavity-nesting and woody debris dependent species (DellaSala et al. 1996). Maintain habitat quality for sensitive species associated with closed canopy forests (FEMAT 1993, Thomas et al. 1993).

By definition, thinning opens up the forest canopy, reduces vegetation cover, and reduces the current and future abundance of dead standing trees and down wood. Adverse effects are therefore likely to occur for species associated with these habitat conditions.

- Bull, E.L. 2002. The value of coarse woody debris to vertebrates in the Pacific Northwest.

- Machmer, M. 2002. Effects of ecosystem restoration treatments on cavity-nesting birds, their habitat, and their insectivorous prey in fire-maintained forests of southeastern British Columbia.
- Maguire, C.C. 2002. Dead wood and the richness of small terrestrial vertebrates in southwestern Oregon.

All in: Laudenslayer, W.F., P.J. Shea, B.E. Valentine, P.C. Weatherspoon and T.E. Lisle, tech. coords. Proceedings of the symposium on the ecology and management of dead wood in western forests. 1999 Nov 2-4, Reno, NV. US Department of Agriculture, Pacific Southwest Research Station, Gen. Tech. Rep. PSW-GTR-181, Albany, CA.
<http://www.fs.fed.us/psw/publications/documents/gtr-181/>

Threatened & Endangered Species

The Endangered Species Act (ESA), 16 U.S.C. §§ 1531 et seq., requires the Forest Service to consult with the U.S. Fish and Wildlife Service (FWS) to insure that the Project “is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [critical] habitat.” 16 U.S.C. § 1536(a)(2).

California condor – Condor roosting habitat and primary flyways occur in and around the project area. Due to the possibility of the California condor being present in the Project area, the Forest Service should initiate consultation with FWS to determine whether the project will impact condors or their roosting habitat or flight patterns and whether any particular mitigation measures should be adopted.

Forest Service Sensitive Species

Northern goshawk – The range of the northern goshawk – a Forest Service Sensitive Species and a Species of Special Concern with CDFG – includes Frazier Mountain and surrounding areas. In fact, a northern goshawk was observed on Frazier Mountain on September 2, 2010. (Dave Pereksta, pers. comm.) Please evaluate the impacts of the project on northern goshawk habitat.

Consider that goshawks exhibit a preference for high canopy closure and a high density of larger trees. In addition, large snags and downed logs are believed to be important components of northern goshawk foraging habitat because such features increase the abundance of major prey species. Please incorporate the following Forest Service recommendations, at a minimum, into the project:

- Retain large trees in vegetation management projects.
- Retain snags and down logs for prey species.
- When conducting vegetation management, maintain a minimum of 200 acres of suitable canopy cover around identified goshawk nest sites. Maintain seasonal restrictions limiting activities within 1/4 mile of the nest site during the breeding

season (approx. 2/15 - 9/15) unless surveys confirm northern goshawks are not nesting.

The environmental document should also recognize that there is limited information on the historic and current distribution of Northern goshawks in southern California mountains:

More information is needed on where goshawks nest in the southern California mountains. The breeding population is clearly small, probably fewer than thirty pairs, and could easily be extirpated by impacts to nesting sites. Efforts to maintain the integrity of these sites cannot be made until we know where they are.

Stephenson & Calcarone, at 199. Based on this uncertainty, please incorporate the following recommendations into the project:

- Conduct specialized inventories to assess distributional status in poorly known areas, such as the mountains of southern California.
- Initiate collaboration between research and management in an adaptive management framework to assess the effects of forest and fuels management policies on Northern Goshawk territory occupancy, demographics, and habitat quality, placing questions within the larger context of the restoration of California forests and natural disturbance regimes. Variation across major California forest types in terms of forest structure, composition, function, patch size and distribution, prey populations, and natural disturbance regimes dictates that management and conservation efforts be developed at appropriate spatial scales. (See Reynolds et al. 2006a for recommendations for developing ecosystem-based conservation strategies for goshawks.)
- If feasible, monitoring in California should follow the U.S. Forest Service's recently developed design for bioregional monitoring of population trends and their association, if any, with broad-scale habitat changes (Hargis and Woodbridge 2006). Empirically derived habitat models should be used to monitor change in habitat distribution and quality at home-range and landscape scales. Monitoring project-level responses of nesting goshawks to management treatments would also be valuable.

John J. Keane. 2008. *Northern goshawk*. In Shuford, W. D., and Gardali, T., editors. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

California spotted owl – Territories of California spotted owls, a Forest Service sensitive species, occur in and near the project area. The environmental document should propose limited operating periods and other measures to avoid impacts to California spotted owls.

In addition, the environmental document should consider recent research indicating that California spotted owls prefer unlogged high-severity fire patches for foraging, while selecting unburned or low-severity areas for roosting. See Bond et al. 2009. "Habitat use and selection by California spotted owls in a postfire landscape. *Journal of Wildlife Management* 73: 1116-1124. High-severity patches enhance habitat for the spotted owl's small mammal prey species. *Id.*

The environmental document should also disclose the current status of California spotted owls in the project area, as well as population trends in the Los Padres National Forest and in southern California.

Yellow-blotched salamander – The project area contains occupied habitat for the yellow-blotched salamander, a Forest Service Sensitive Species. Stephenson & Calcarone (1999), at 187. Please evaluate any impacts to yellow-blotched salamander habitat in the environmental document.

Calliope hummingbird – Frazier Mountain contains suitable and occupied habitat for the Calliope hummingbird, a species of local viability concern. Stephenson & Calcarone (1999). Please evaluate any impacts to hummingbird habitat in the environmental document.

Bright blue copper butterfly – This Forest Service species of local viability concern may occur in the project area, particularly in sagebrush-dominated shrublands. See Orsak, L.J. and Miller, S.E. 1978. "Habitat: *Lycaena heteronea clara*." *Journal of Research on the Lepidoptera* 17(3):204-206, 1978(80). [http://sipddr.si.edu/dspace/bitstream/10088/3529/1/Orsak and Miller 1980 JRL.pdf](http://sipddr.si.edu/dspace/bitstream/10088/3529/1/Orsak%20and%20Miller%201980%20JRL.pdf). Please evaluate any impacts to butterfly habitat in the environmental document, particularly their host buckwheat plants.

Mt. Pinos lodgepole chipmunk – A Forest Service Sensitive Species and a Species of Special Concern with the California Department of Fish & Game, isolated to Frazier Mountain and Cerro Noroeste. Please evaluate any impacts to lodgepole chipmunk habitat in the environmental document.

Tehachapi white-eared pocket mouse – This Forest Service Sensitive Species and state Species of Special Concern is known to occur on Frazier Mountain and the Chuchupate Campground area, and is endemic to the region. Please evaluate any impacts to pocket mouse habitat in the environmental document.

Consider that little data exists on the distribution and abundance of pocket mice in the Los Padres National Forest. Specifically:

So little is known about the status of the Tehachapi pocket mouse that it would be sheer speculation to suggest threat factors and conservation needs. Surveys are needed to determine the distribution and relative abundance of this species on public lands within the assessment area.

Stephenson & Calcarone (1999), at 217. Please conduct appropriate surveys to protocol to establish adequate baseline data.

Tehachapi slender salamander – The Tehachapi slender salamander is protected as a “threatened” species in California, and is also recognized as a Forest Service Sensitive Species. Frazier Mountain contains suitable habitat. Stephenson & Calcarone 1999. Please evaluate any impacts to Tehachapi slender salamander habitat in the environmental document.

Long-legged myotis – A Forest Service Sensitive Species found on Frazier Mountain. Please evaluate any impacts to myotis habitat in the environmental document.

Mt. Pinos Blue Grouse – A species of local concern. Stephenson & Calcarone (1999). Considered extirpated from Frazier Mountain, but few surveys have occurred. Historically occurred on Frazier Mountain. See

http://elibrary.unm.edu/sora/Condor/cooper/pca_021.pdf

Plants – Frazier Mountain contains a unique assemblage of rare plant species. Of the 356 taxa documented on the mountain by Magney, 153 of them (43%) are considered rare, with ten or fewer populations in Ventura County, or considered rare statewide, nationally, or globally. A listing of all plant species observed or known on Frazier Mountain is available here:

http://www.magney.org/photos/Ventura_Co/FrazierMtn/FrazierMountainPlants_checklist20080213.pdf

Recognizing the rarity of plant species on Frazier Mountain, the Forest Service has classified several of them as Sensitive, including:

- Palmer’s mariposa lily (*Calochortus palmeri* var. *palmeri*)
- Unexpected larkspur (*Delphinium inopinum*)
- San Gabriel Mountains sunflower (*Hulsea vestita* ssp. *gabrielensis*)
- Flax-like monardella (*Monardella linoides* ssp. *oblonga*)
- Baja navarretia (*Navarretia peninsularis*)
- Alpine Kennedy buckwheat (*Eriogonum kennedyi* ssp. *alpigenum*)

Management Indicator Species

Evaluate impacts to Management Indicator Species (“MIS”) that occur in or near the project area.

Cavity-Nesting Birds & Migratory Birds

Consider and disclose the effects of thinning on birds associated with late successional forests. The Southern Oregon University research by Stewart Janes revealed that “many birds declined” after the thinning and “the species suffering the most were red-breasted nuthatches, chestnut-backed chickadees, Pacific-slope flycatchers and hermit warblers,” all

species associated with late-succession forests.” The ornithologists found the declines “surprising” and said the results are “directly applicable to the kind of forestry practices they’re talking about now,” i.e. increasing thinning to reduce fuels.

<http://www.mailtribune.com/archive/2003/0917/local/stories/18local.htm>

Evaluate impacts to migratory birds protected under the Migratory Bird Treaty Act (“MBTA”). Ensure that the project does not result in take of migratory birds or their nests, in accordance with the MBTA. Implement timing restrictions and buffers to avoid nesting areas.

Inventoried Roadless Areas

The environmental document should evaluate whether the Project is partially within an Inventoried Roadless Area. (Or preliminary assessment is that the project area is adjacent to, but does not encroach into, the Sespe/Frazier IRA, in which case the environmental document should so state.) If there is overlap between the project area and the IRA, the document should contain a map of the roadless area boundaries in relation to the project area; should identify the name of the roadless area and its acreage; and should evaluate the impacts of the existing and proposed road use and maintenance activities on the roadless character of the area. Please note that “roadless character” is not limited to the construction, maintenance, or use of roads; rather, “roadless character” as defined in the Roadless Rule refers to many things, including:

- (1) High quality or undisturbed soil, water, and air;
- (2) Sources of public drinking water;
- (3) Diversity of plant and animal communities;
- (4) Habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land;
- (5) Primitive, semi-primitive nonmotorized and semi-primitive motorized classes of dispersed recreation;
- (6) Reference landscapes;
- (7) Natural appearing landscapes with high scenic quality;
- (8) Traditional cultural properties and sacred sites; and
- (9) Other locally identified unique characteristics.

36 CFR § 294.11.

Benefits of Bark Beetles

The Proposed Action states that one of the main project goals is to “reduce bark beetle risk.” PA at 1. However, the Proposed Action later states that data from 2003 through 2009 “shows generally low levels of bark beetle mortality,” even during drought conditions. PA at 8.

Native insects work to thin trees, control crowding, reduce stress and lessen competition for water and nutrients. Some levels of insect herbivory, or plant-eating, may even be good for trees and forests, and in the long run produce as much or more tree growth.

According to Scott Black of the Xerces Society (pers. comm. March 15, 2005):

[T]hese insects are native and are very important. Bark beetles help decompose and recycle nutrients, build soils, maintain genetic diversity within tree species, generate snags and down logs required by wildlife, and provide food to birds and small mammals. By feeding upon dead or dying trees, wood borers and bark beetles provide food to insect gleaner species of birds (such as woodpeckers), create snags that may be utilized by cavity nesting birds in the future and overall are invaluable catalysts in forest evolution.

There is very little evidence (or no) real evidence that logging can control insects. There are very few peer reviewed studies that have looked at this. Cronin (et al 1999), had notable quote: "Even more striking is the paucity of studies that have examined the consequences of human intervention on pest movement patterns. In fact, we know of no studies that have experimentally evaluated the effects of management strategies on the dispersal of insect pests in forest systems"

Thinning is often recommended to control outbreaks of bark beetles but there is little direct evidence that this works. Most of this is based on the fact the tree vigor increases and the trees are able to ward off infestation by insects. Some scientists have suggested caution in using thinning to control bark beetles as geographic and climatic variables may alter the effect. (Hindmarch and Reid 2001). Hindmarch and Reid (2001) found that thinned stands exhibited a higher attraction rate of mates by males of *Ips pini*, while females had longer egg galleries, more eggs per gallery and higher egg densities. Warmer temperatures in thinned stands also contributed to a higher reproduction rate. The number of males and females setting on logs was also higher in thinned stands. However, pine engravers in Arizona responded differently to thinning (see Villa-Castillo and Wagner 1996).

Bark beetles are always widespread and quite common. Even if we can control them in a "stand" of trees it is likely to have little impact on infestation on a landscape scale. According to Wilson and Celaya (1998), removal of infested trees may provide some protection to surrounding trees, but these insects [Western pine beetle] are very common, so removal of a few infested trees is not a guarantee of protection. See Cronin, J.T., P. Turchin, J.L. Hayes and C.A. Steiner. 1999. Area-wide efficacy of a localized forest pest management practice. *Environmental Entomology* 28(3): 496-504. Hindmarch, T.D. and M.L. Reid. 2001. Forest thinning affects reproduction in pine engravers (Coleoptera: Scolytidae) breeding in felled lodgepole pine trees. *Environmental Entomology* 30(5): 919-924. Hughes, J. and R. Drever. 2001. Salvaging solutions: science-based management of British Columbia's pine beetle outbreak. Report commissioned by The David Suzuki Foundation, Vancouver, B.C. Wilson Jill, and Celaya, Bob. 1998. *Bark Beetles Biology, Prevention and Control*. http://www.for.nau.edu/usfs/r3_fpm/bbpaper.html

Thinning could ultimately attract beetles to the area through the release of terpenes from fresh wood chips, slash, or wounded green trees. If insect attack is a concern, the agency must consider and disclose the factors that tend to attract insects and determine whether thinning will make things better or worse. Since logging is likely to have lots of adverse impacts on soil water and wildlife habitat, and since is not likely to have much beneficial effects on insect pests, we urge the agency to the stated purpose of this project to control insects.

Wildfire Frequency

The environmental document should consider that significant uncertainty exists regarding wildfire frequency in southern California forests. Specifically,

A broad consensus now exists among ecologists that stand-replacing fires, with 20-year to 60-year fire return intervals, are generally natural in southern California chaparral communities (Mensing et al. 1997, Moritz et al. 2004). However, there is substantial uncertainty about the historic range of variability of fire frequency and size in this type, especially over time scales of centuries. Moreover, the relative role of human-induced changes and climatic variability is unclear (Keeley and Fotheringham 2001, Minnich 2001, Keeley 2004).

Minnich (2001) has argued, using aerial images of modern fire perimeters, that fire suppression in southern California has resulted in extensive even-aged patches of chaparral and has eliminated natural, fine-grained chaparral mosaics like those he has documented in northern Baja California, Mexico. Others (Mensing et al. 1999, Keeley and Fotheringham 2001, Moritz et al. 2004, Westerling et al. 2004) have countered this argument with data indicating that chaparral fire regimes in southern California, with the exception of increased fire frequency, have not changed over time and that fire suppression, stand age, and fuel loads play a minimal role in shaping the current state of fire occurrence and size.

...[T]wentieth century observational data suggest that weather and climate variables, in particular Santa Ana winds and drought, are still the most important driver of fire occurrence and size in southern California (Keeley 2004, Moritz et al. 2004, Keeley and Zedler 2009)

Lombardo, K.J., T.W. Swetnam, C.H. Baisan, and M.I. Borchert. 2009. Using bigcone Douglas-fir fire scars and tree rings to reconstruct interior chaparral fire history. *Fire Ecology* 5(3): 35-56. This study used tree-ring scars to determine fire frequency from the year 1600 through 2005, and concluded that the mean fire interval was approximately 30 years, with a range of 22.6 years to 45.3 years between wildfire events.

The scoping notice mischaracterizes the current state of knowledge on fire frequency in southern California forests. Citing to a 35-year old study, it erroneously states, “Wildfire frequencies have declined over the last 70 years in southern California montane forests due to fire suppression efforts (McBride and Laven 1976).” However, recent studies indicate that fire frequency has not substantially changed during the last five centuries:

Charcoal records from Santa Barbara Channel sediments indicate that large fires (>20 000 ha) have consistently occurred at intervals of 20 years to 30 years (Mensing et al 1999). The Santa Barbara charcoal record illustrates that this frequency has not changed substantially over the past 560 years, which includes periods of Native American, Spanish, and Euro-American tenure (Mensing et al. 1999).

Lombardo et al. 2009.

The environmental document should evaluate fire frequency in the area in and around the proposed action, and incorporate this and other recent studies regarding fire frequency and severity in southern California forests. It should also include a fire history map of the area in and around the project.

Consistency with Forest Plan

Please evaluate whether and how the project is consistent with the standards, guidelines, and desired conditions of the Forest Plan.

Cumulative Impacts

In the environmental document, please analyze all impacts of the Project, including cumulative effects. See 40 C.F.R. §§ 1508.9(b), 1508.8. A cumulative impact is defined under NEPA regulations as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.... Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” 40 C.F.R. § 1508.7.

The document should analyze the following related past, present, and reasonably foreseeable future projects that, combined with this Project, may result in significant cumulative impacts:

- Planned fuelbreak construction
- Emergency fuelbreak construction
- Mt. Pinos project
- Pine Mountain Club Project

Soils & Slopes

The use of heavy equipment can result in increased mortality of remaining trees due to pathogens and mechanical damage to boles and roots. The environmental document should evaluate methods to avoid damage to soil integrity through compaction, contact with heavy equipment, and loss of litter layer.

The environmental document should also identify the steepness of all slopes in the Project area, and explain how thinning will differ to account for differences in slope incline. Prohibit thinning and other disturbance on steep slopes and in riparian areas.

Cultural Resources

The environmental document should disclose the extent (but not the location) of Native American heritage sites in the Project area. Summarize the extent the area has been surveyed for archaeological resources, and discuss whether additional pre-implementation surveys should occur. Retain monitoring by a certified archaeologist during all Project activities. Consult with the State Historic Preservation Officer in accordance with the National Historic Preservation Act.

Water Quality

The State Water Resources Control Board has identified vegetation removal as one of the main causes of water pollution in the national forest. The environmental document should consider the following mitigation measures:

- Reduce creation of sediment that may eventually be delivered to streams and harm fish. Identify all perennial and intermittent streams in the Project area.
- Document impacts to water quality and channel stabilization.
- Avoid or restore skid trails, which tend to channelize runoff and contribute to erosion, sedimentation, and gullyng.
- Identify specific measures the agency will take to comply with Best Management Practices. Analyze whether thinning and clearing will actually increase erosion, and evaluate how long before any long-term water quality benefits are seen.

Existing Condition

The Proposed Action relies on stands 99, 3, and 243 “as representative examples to discuss and display the general existing condition, desired condition, and effects of proposed treatments.” The environmental document should disclose why these three stands were selected as representative samples, and should rely on additional stands to serve as representative examples. The environmental document should also disclose whether any

stands in the project area are currently meeting desired conditions, and explain why any treatments are needed in those areas.

Frequency of Treatments

The Proposed Action is not clear about whether the Forest Service intends on reentering these stands at some point in the future, or repeating vegetation removal or prescribed burning treatments. The environmental document should disclose the frequency of retreatments, as well as thresholds that will prompt retreatment.

Retain Sufficient Canopy Structure

Retaining more canopy can result in cooler ground temperatures and increased soil moisture. Please consider steps to reduce ground fuels and ladder fuels as a first priority and reducing canopy fuels as a lesser priority. See Jim Agee. Risk Assessment for Decision-making Related to Uncharacteristic Wildfire, Conference Portland, Oregon Nov 17-20, 2003 http://outreach.cof.orst.edu/riskassessment/presentations/ageej_files/v3_do

Snag Retention for Wildlife

The environmental document should discuss the retention of snags to benefit wildlife. For example, Verner et al. (1992) recommends at least 20 square feet per acre of basal area of large snags, or about 8 large snags per acre on average, for suitable spotted owl habitat. Abundant large snags are essential for spotted owls because owl prey species depend on them.

In addition, the environmental document should note that higher densities of snags do not always result in higher fire intensity, based upon a study of recent tree mortality and subsequent wildland fire in the San Bernardino National Forest. Bond, M.L. et al. "Influence of pre-fire tree mortality on fire severity in conifer forests of the San Bernardino Mountains, California. *The Open Forest Science Journal* 2: 41-47.

Pile Burning & Prescribed Burning

Pile burning may cause patches of extreme soil heating to the point where soil characteristics are changed. The environmental document should disclose the size and location of these patches across the Project area. Piles result in heavy, localized impacts to soil quality. The environmental document should also evaluate the impacts of pile burning on soil structure and composition, as well as the regrowth capability of pile-burned areas.

Economic Analysis

The environmental document should include a Forest Service cost estimate for any commercial tree removal associated with this project. Such an estimate should include administrative costs pertaining to analysis and appeals, costs of timber sale preparation and administration, costs of monitoring during and after implementation, per acre costs of slash piling and burning, per acre costs of brush maintenance following thinning as a result of canopy reduction; the projected timber sales receipts from the timber sale, and the total volume of the timber sale (in board feet of sawtimber and/or tons of biomass).

Hazard Tree Guidelines

The PA states: "Commercial thinning would thin smaller diameter trees (thin from below) and would leave the larger diameter fire resilient trees unless they pose a safety hazard to harvest operations or the public." PA at 12. The environmental document should disclose the criteria used to determine what constitutes a "safety hazard."

Thank you again for this opportunity to provide our comments on the Project. Please keep us on your mailing list to receive all future public notices, environmental documents, specialist reports, and decision documents. We look forward to working with the Forest Service to ensure the best outcome possible for the Frazier Mountain area.

Sincerely,

A black rectangular redaction box covering the signature of Jeff Kuyper.

Jeff Kuyper
Executive Director