August 14, 2020

Los Padres National Forest
Attn: Kevin Elliott, Forest Supervisor
6750 Navigator Dr #150, Goleta, CA 93117
kevin.b.elliott@usda.gov

Re: Reyes Peak Forest Health and Fuels Reduction Project

Dear Mr. Elliott:

Thank you for this opportunity to provide our initial comments on the Reyes Peak Forest Health and Fuels Reduction Project ("Project") on Pine Mountain Ridge in the Mt. Pinos and Ojai Ranger Districts. The Project entails constructing a six-mile-long fuel break (755 acres total) along the ridge by masticating or clearing chaparral and by logging conifer trees up to 24" in diameter at breast height ("DBH") as well as up to 64" DBH with some stipulations. The Project would potentially be accomplished through a timber sale or stewardship contract, either of which could involve commercial logging of large trees.

The undersigned organizations support efforts to improve ecosystem health and protect communities from wildfires, and we work to ensure that vegetation treatment activities are undertaken with minimal impacts to wildlife, roadless areas, water supplies, and other forest resources. We also support the maintenance of defensible space immediately around structures along with programs to promote the construction and retrofitting of homes with fire-safe materials and design as the most effective ways to protect communities from wildfire.

We have reviewed the Project Description in full, and we have several concerns about the Proposed Action and the potential lack of further documentation in an environmental assessment ("EA") or environmental impact statement ("EIS"). We are deeply troubled by the fact that this is the third such project proposed within approximately two years using such a flawed approach to environmental review and public input, especially considering the overwhelming public outcry over the Project, including by several Chumash tribal organizations to whom the ancestral land of Pine Mountain ('Opnow) is sacred.

In addition, the Project constitutes yet another departure from previous commitments made by the U.S. Forest Service to prepare EAs. The agency even proposed a similar project for the Pine Mountain area in 2005[1] and, as a result of discussions with conservation groups[2], committed to preparing an EA[3] even though it was nearly one-quarter the size of the current Project. The former Pine Mountain Recreation Area Project was eventually cancelled in 2012[4], for unknown reasons, without an EA ever being prepared.

Furthermore, the Project has been proposed in the wake of President Trump's December 2018 Executive Order (13855)[5], which directed the U.S. Forest Service to sell 3.8 billion board feet of timber by conducting such projects. An internal memo[6] sent to Regional Foresters from the agency's Acting Deputy Chief on May 30, 2019 and another internal memo[7] sent from the Acting Deputy Chief on June 5, 2019 indicate that the Project may be intended to meet timber quotas with minimal environmental review rather than improving forest health. And the Secretary of the Department of Agriculture's recent memo[8] sent to Regional Foresters on August 10, 2020 further supports this view.

We hereby submit the following comments regarding the Project.

[1] U.S. Forest Service. June 3, 2005. Scoping letter, Pine Mountain Recreation Area Project.
[2] Los Padres ForestWatch. July 6, 2005. Scoping comment letter, Pine Mountain Recreation Area Project.
[3] U.S. Forest Service. 2005. Schedule of Proposed Actions (October).
[4] U.S. Forest Service. 2012. Schedule of Proposed Actions (October).
[5] President Donald J. Trump. December 21, 2018. *EO on Promoting Active Management of America's Forests, Rangelands, and other Federal Lands to Improve Conditions and Reduce Wildfire Risk*.
[6] U.S. Forest Service Acting Deputy Chief Christopher B. French. May 30, 2019. Internal memo to Regional Foresters regarding EO 13855.
[7] U.S. Forest Service Acting Deputy Chief Christopher B. French. May 30, 2019. Internal memo to Regional Foresters regarding 2430 Rates (Low Value Forest Products).
[8] U.S. Department of Agriculture Secretary Sonny Perdue. August 10, 2020. Internal memo to Regional Foresters.

1. THE FOREST SERVICE MUST PREPARE AN EA OR EIS BECAUSE THE PROJECT DOES NOT QUALIFY FOR ANY CATEGORICAL EXCLUSION.

The scoping letter issued by the U.S. Forest Service states that the agency intends to approve the Proposed Action using two categorical exclusions ("CE") under the Healthy Forest Restoration Act of 2003 ("HFRA"). These CEs are listed as:

- Section 603 of HFRA (16 U.S.C. 6591b), Insect and Disease Infestation
- Section 605 of HFRA (16 U.S.C. 6591d), Wildfire Resilience

These CEs will henceforth be referred to as "CE 603" and "CE 605," respectively. It is important to note that for a project to be carried out under CE 603, it must be one that:

> (b) Collaborative Restoration Project.—
>
> > (1) In General.—A project referred to in subsection (a) is a project to carry out forest restoration treatments that—
> >
> > > (A) **maximizes the retention of old-growth and large trees**, as appropriate for the forest type, to the extent that the trees **promote stands that are resilient to insects and disease**;
> > >
> > > (B) **considers the best available scientific information** to maintain or restore the ecological integrity, including maintaining or restoring structure, function, composition, and connectivity; and
> > >
> > > (C) is **developed and implemented through a collaborative process** that—
> > >
> > > > (i) includes multiple interested persons representing diverse interests; and
> > > >
> > > > (ii)(I) is **transparent and nonexclusive**; or
> > > >
> > > > > (II) meets the requirements for a resource advisory committee under subsections (c) through (f) of section 205 of the Secure Rural Schools and Community Self-Determination Act of 2000 (16 U.S.C. 7125)….
>
> (c) Limitations….
>
> > (2) Location.—A project under this section shall be limited to areas—
> >
> > > (A) **in the wildland-urban interface**; or
> > >
> > > (B) **Condition Classes 2 or 3 in Fire Regime Groups I, II, or III, outside the wildland-urban interface**….

(e) Forest Management Plans.—All projects and activities carried out under this section **shall be consistent with the land and resource management plan** established under section 6 of the Forest and Rangeland Renewable Resources Planning Act of 1974 (16 U.S.C. 1604) for the unit of the National Forest System containing the projects and activities.[9]

The requirements for a project carried out under CE 605 are similar:

(b) Collaborative Restoration Project.—

(1) In General.—A project referred to in subsection (a) is a project to carry out forest restoration treatments that—

(A) **maximizes the retention of old-growth and large trees**, as appropriate for the forest type, to the extent that the trees **promote stands that are resilient to insects and disease**, and reduce the risk or extent of, or **increase the resilience** to, wildfires;

(B) **considers the best available scientific information** to maintain or restore the ecological integrity, including maintaining or restoring structure, function, composition, and connectivity; and

(C) is **developed and implemented through a collaborative process** that—

(i) includes multiple interested persons representing diverse interests; and

(ii)(I) is **transparent and nonexclusive**; or

(II) meets the requirements for a resource advisory committee under subsections (c) through (f) of section 205 of the Secure Rural Schools and Community Self-Determination Act of 2000 (16 U.S.C. 7125)….

(c) Limitations….

(2) Location.—A project under this section shall be—

(A) **Prioritized within the wildland-urban interface**;

[9] 16 U.S.C. 6591b (emphasis added).

(B) **If located outside the wildland-urban interface, limited to areas within Condition Classes 2 or 3 in Fire Regime Groups I, II, or III that contain very high wildfire hazard potential**; and

(C) Limited to areas designated under section 602(b) as of the date of enactment of this Act….

(e) Forest Management Plans.—All projects and activities carried out under this section **shall be consistent with the land and resource management plan** established under section 6 of the Forest and Rangeland Renewable Resources Planning Act of 1974 (16 U.S.C. 1604) for the unit of the National Forest System containing the projects and activities.[10]

The Project does not meet the requirements under the above statutes for the reasons detailed below.

A. The Project is not one that would maximize the retention of old-growth and large trees or promote stands that are resilient to insects and disease or wildfire.

The Proposed Action would include the removal of trees up to 24" diameter at breast height ("DBH") without stipulation and trees between 24" and 64" DBH for "safety reasons or dwarf mistletoe infestations" (also worded elsewhere in the Project Description as "if the trees are impacted by dwarf mistletoe").[11] We dispute that notion that only trees greater than 24" DBH should be considered "large" as the agency states in the Project Description. Our reasoning is explained in more detail in Section 3 of this letter. In short, previous projects in the Los Padres National Forest that involved tree removal for similarly stated purposes, and at least one that occurred in an IRA, imposed stricter size limits on the trees that could be removed. These limits were less than half of the limit being used for the Project, and they have vague exceptions that can allow for trees larger than the limit can easily be removed in the IRA.

It is also important to note that conifers close to 24" may very well be "old-growth." Hanson and Odion (2016)[12] analyzed the diameter and age of dominant and codominant trees in yellow pine and mixed-conifer forests on the west side of the central and southern Sierra Nevada in areas that had been unlogged. Trees approximately 24" DBH (about 60 cm, which is the unit used by the researchers) were often 100 – 200 years old or more (Figure 1). Because these were dominant and codominant trees in similar forest types, they likely included species that are found in the Project Area. Importantly, the Project Area may be drier compared to some of

[10] 16 U.S.C. 6591d (emphasis added).

[11] U.S. Forest Service. 2020. Reyes Peak Forest Health and Fuels Reduction Project Description.

[12] Hanson, C.T. and D.C. Odion. 2016. Historical Forest Conditions within the Range of the Pacific Fisher and Spotted Owl in the Central and Southern Sierra Nevada, California, USA. *Natural Areas Journal*, 36(1):8-19. doi.org/10.3375/043.036.0106

the Sierra Nevada areas studied, meaning that growth could be even slower in the Project Area. Thus, trees approaching 24" DBH may, in fact, be significantly older in the Project Area.

In addition and separate from these issues relating to tree age, the Project Description's two exceptions to the 24" DBH limit are concerning for multiple reasons. The agency has not clearly stated what constitutes "safety reasons"—this is defined nowhere in the Project Description. Such vague language would allow the removal of trees far away from a road, campground, or trail using this exemption.

Similarly, the Project Description does not provide any further information about what constitutes "dwarf mistletoe infestations" or a tree being "impacted by dwarf mistletoe." In fact, the agency provides no information about what dwarf mistletoe is (including which species of dwarf mistletoe is of concern) or why it should be used as an exception to the 24" DBH limit. Dwarf mistletoes (*Arceuthobium* spp.) are native plants that have evolved in and are integral components of these forest ecosystem.[13] Bennetts et al. (1996) found that the presence of dwarf mistletoe in ponderosa pine forests is associated with increased avian diversity. That study concluded:

> In areas where management goals are not strictly focused on timber production, control of dwarf mistletoe may not be justified, practical, or even desirable. Wicker (1984) states "Dwarf mistletoe is a slow, insidious pest that fights a war of attrition. It wears down our interest, the visibility of our efforts, and thus the financial support of our control programs." Given that dwarf mistletoe has existed as part of ponderosa pine communities for a very great many years, we suggest that when consistent with management objectives, an alternative to fighting a "war" with dwarf mistletoe is to view it as having a "place" in healthy diverse forest ecosystems rather than as an invading "enemy".[14]

From our own observations in the Project Area, dwarf mistletoe is found on many trees both below and above the 24" DBH threshold. A photo of dwarf mistletoe in one of the Jeffrey pine trees in the Project Area can be seen in Figure 2 of the Project Description. We have observed dwarf mistletoe on some of the largest trees in the Project Area, which are still well below the 64" DBH limit. As the Project Description fails to provide any criteria (e.g. how much dwarf mistletoe is in a particular tree, what proportion of branches of a tree is it on, is the tree still alive and healthy, etc.) for whether a tree is considered to be "impacted by dwarf mistletoe," we have no way of knowing where and how this exception will be used to remove trees greater than 24" DBH. Thus, many trees larger than 24" DBH could be removed.

---

[13] Griebel, A., D. Watson, and E. Pendall. 2017. Mistletoe, friend and foe: synthesizing ecosystem implications of mistletoe infection. Environmental Research Letters, 12:115012. doi: 10.1088/1748-9326/aa8fff

[14] Bennetts, R.E., G.C. White, F.G. Hawksworth, and S.E. Severs. 1996. The influence of dwarf mistletoe on bird communities in Colorado ponderosa pine forests. Ecological Applications, 6(3):899-909. doi: 10.2307/2269493

Furthermore, the Proposed Action would not "promote stands that are resilient to insects or disease." First, it is important to understand the ecological definition of resilience (and how this differs from resistance), which has been well-defined in the scientific literature. Halpern (1988)[15] defined an ecosystem's resilience as "the rate, manner, or degree to which initial community characteristics are restored following displacement," which differs from resistance, defined by Halpern as "the extent to which it resists change by disturbance." Similarly, Lake (2013)[16] summarized a long-standing differentiation between resistance and resilience thus:

> …the response to disturbance consists of 'resistance', or the capacity of ecological entities to withstand the disturbance and 'resilience' or the capacity to recover from the disturbance even though the biota and ecological processes have been diminished…

The statutes mentioned above are clear in that they reference *resilience* either to insects and disease or wildfire (or both), and the agency acknowledges this in the Project Description when describing the purposes of the HFRA. However, the Proposed Action appears to be largely aimed at promoting *resistance* to these natural disturbances. The Project Description states that one of the desired conditions is to "create forests **more resistant** to the effects of drought, insect and disease outbreaks, and stand-killing crown fires…"[17] Though elsewhere the Project Description states that "[t]here is a need to reduce surface and ladder fuels, reduce potential fire intensities and make the area more resilient to wildfire." In the first statement the agency is acknowledging that it intends to promote resistance rather than resilience, though confusingly the agency then references a need to promote resilience—but only to wildfire. The agency is conflating the two terms despite the fact that these terms have distinct scientific definitions and that only one of the terms is used in the CE statutes the agency is intending to use to approve the Project. Regardless, not only would the Proposed Action not increase the resistance of ecosystems in the Project Area to these disturbances, it would not increase their resilience either. This is examined in more detail in the following subsection.

B. The Project is not one that considers the best available scientific information.

The Project Description does not explicitly state or define all of the goals of the Project, rather it describes the "desired condition for the national forest land":

> (1) create forests more resistant to the effects of drought, insect and disease outbreaks, and stand-killing crown fires; (2) encourage tree recruitment that

---

[15] Halpern, C.B. 1988. Early Successional Pathways and the Resistance and Resilience of Forest Communities. Ecology, 69(6):1703-1715. doi:10.2307/1941148.

[16] Lake, P.S. 2013. Resistance, Resilience and Restoration. Ecological Management & Restoration. 14(1):20-24. doi.org/10.1111/emr.12016

[17] U.S. Forest Service. 2020. Reyes Peak Forest Health and Fuels Reduction Project Description. (emphasis added)

> contain a species mix more like pre-settlement composition, (with a higher representation of shade-intolerant species such as ponderosa pine that have declined during the period of fire suppression); (3) re-create stand densities more like those of the pre-suppression era; and (4) encourage a stand structure that emphasizes large-diameter trees.[18]

Additionally, the Project Description states:

> There is a need to reduce surface and ladder fuels, reduce potential fire intensities and make the area more resilient to wildfire.[19]

Assuming that these are the specific goals of the Project, the Forest Service does not clearly demonstrate that the Proposed Action would accomplish these goals or that ecosystems in the Project Area are at risk of succumbing to these factors beyond what is natural. Ultimately, the scoping documentation that has been released by the agency for the Project has not adequately discussed the best available science about a variety of topics related to how the Proposed Action is unlikely to achieve the stated goals as well as the current and natural conditions of the ecosystems that occur in the Project Area.

1. Effects of the Proposed Action on Drought Susceptibility

The Project Description contains very little information about the effects of drought on the Project Area. Rather, the Project Description portrays drought as a contributing factor to insect outbreaks and, through the addition of dead trees to the landscape, stand-replacing wildfire. In other words, the agency views insect (and disease) and stand-replacing wildfire as the problems that need to be addressed, with drought being a potential precursor to both. It is true that bark beetle activity increases during drought periods, a process that has been occurring in western forests long before humans began influencing the landscape, but the ability to control such outbreaks is not well-supported by science,[20] and insect outbreaks' impact on future fire risk or severity is minimal.[21] Issues related to bark beetles and wildfire are discussed in more detail below.

---

[18] *Id.*

[19] *Id.*

[20] Six, D.L., E. Biber, and E. Long. 2014. Management for Mountain Pine Beetle Outbreak Suppression: Does Relevant Science Support Current Policy? Forests, 5(1):103-133. doi:10.3390/f5010103

[21] Black, S.H., D. Kulakowski, B.R. Noon, and D.A. DellaSala. Do Bark Beetle Outbreaks Increase Wildfire Risks in the Central U.S. Rocky Mountains? Implications from Recent Research. *Natural Areas Association*, 33(1):59-65. doi.org/10.3375/043.033.0107

Hart, S.J., T. Schoennagel, T.T. Veblen, and T.B. Chapman. 2015. Area burned in the western United States is unaffected by recent mountain pine beetle outbreaks. PNAS, 112(14):4375-4380. doi: 10.1073/pnas.1424037112

Meigs, G.W., H.S.J. Zald, J.L. Campbell, W.S. Keeton, and R.E. Kennedy. 2016. Do insect outbreaks reduce the severity of subsequent forest fires? doi:10.1088/1748-9326/11/4/045008

2. *Erroneous Citation and the Effects of the Proposed Action on Future Bark Beetle Activity*

Similar to the last two such projects proposed by the U.S. Forest Service in the Los Padres National Forest[22], the agency has once again cited Oliver (1995) to state in the Project Description on page 11:

> According to Oliver (1995), Jeffrey and pinyon pine trees, in stands where basal areas are over 120 square feet of basal area per acre, are at imminent risk of bark beetle-associated mortality.

While the Project Description omits a full citation for Oliver (1995), we assume it is referring to the only paper published solely by W.W. Oliver in 1995. Regarding the threshold of 120 ft^2 basal area per acre presented in the Project Description, this is not what Oliver (1995) shows. Moreover, the study is not even applicable to the Project area for multiple reasons.

First, Oliver (1995)[23] defines such a basal area threshold as 150 ft^2 per acre (not 120 as stated in the Project Description), as shown in the conclusion on page 217 of that study:

> a) Sartwell's threshold of 34 m^2 per ha (150 ft^2 per acre) of basal area above which density stands are susceptible to attack by bark beetles appears to be a reasonable average value for California.

However, Oliver (1995) only presents results in even-aged pure stands (plantations) of ponderosa pine in northern California, and his conclusions are only generally applicable to even-aged stands where there is low variance around the mean DBH across the stand. More specifically, Oliver was interested in determining a Stand Density Index ("SDI") threshold above which bark beetle-induced mortality would significantly alter a stand. Oliver only studied even-aged plantations of ponderosa pine in two areas where density was initially very high and mean DBH was relatively low. These two areas differed in site characteristics such as slope and precipitation and only one site was thinned.

Oliver found that in the unthinned study area, his study plots reached a SDI of 329, the equivalent basal area of which he states is approximately 170 ft^2 of per acre for 332 TPA with a mean DBH of 9.7 inches, before experiencing significant bark beetle mortality. In the thinned study area, his study plots—which were thinned several times over 25 years and which were subjected to repeated storm damage—reached a SDI of 245 before bark beetles began killing trees and a SDI of 309 before bark beetle-induced mortality reached "epidemic levels." He describes the equivalent basal area for a SDI of 245 at this site as 135 ft^2 per acre for 168 TPA

Andrus, R.A., T.T. Veblen, B.J. Harvey, and S.J. Hart. 2016. Fire severity unaffected by spruce beetle outbreak in spruce-fir forests in southwestern Colorado. *Ecological Applications*, 26(3):700-711.

[22] U.S. Forest Service. 2018. Cuddy Valley Forest Health/Fuels Reduction Project Decision Memo. U.S. Forest Service. 2019. Tecuya Ridge Shaded Fuelbreak Project Decision Memo.

[23] Oliver, W.W. 1995. Is Self-Thinning in Ponderosa Pine Ruled by *Dendroctonus* Bark Beetles?

with a mean DBH of 12.3 inches. He describes the equivalent basal area for a SDI of 309 at this site as 174 ft^2 per acre for 256 TPA with a mean DBH of 11.4 inches.

As these results are only useful for similar high density even-aged stands, even if they were misapplied to the complex, uneven-aged natural stands that are composed of multiple conifer species (i.e. not plantations) found in the Project Area, the agency still does not even accurately portray Oliver's findings. As the agency has stated in its Project Description, the average basal area across the Project Area is slightly over 120 ft^2 per acre. While we have no way of verifying this due to the agency being unwilling to share stand exam data (see below), even if we accepted this number as true, it is still well below the thresholds presented by Oliver. Remember that there are four thresholds mentioned by Oliver: 150 ft^2 basal area per acre (Sartwell's threshold, which Oliver believes would be a reasonable average for California), 135 ft^2 basal area per acre (above which thinned and storm-damaged stands began experiencing non-epidemic levels of bark beetle-induced mortality), 170 ft^2 basal area per acre (above which undisturbed stands began experiencing epidemic levels of bark beetle-induced mortality), and 174 ft^2 (above which thinned and stormed-damaged stands experienced epidemic levels of bark beetle-induced mortality). The agency does not accurately point to any of these thresholds, instead arbitrarily indicating a threshold of 120 ft^2 basal area per acre and incorrectly citing to Oliver (1995).

Moreover, even if the agency used any of the thresholds described by Oliver (which are all still higher than the current average basal area in the Project Area according to the agency), there is no explanation of whether such a threshold that was derived in even-aged plantations would be applicable to uneven-staged old-growth stands with multiple tree species which are characteristic of the Project Area. Here the agency seems to be creating a new threshold that has not been identified in the scientific literature as applicable to either even-aged or uneven-aged stands in order to justify reducing the basal area in the Project Area.

Second, studies such as Oliver (1995) that are conducted in even-aged plantations are likely inapplicable to uneven-aged natural stands primarily due to the complex relationship between TPA and basal area in natural stands. In an even-aged stand, most trees are approximately the same size, thus greater TPA translates to greater basal area. In an uneven-aged stand with a variable number of TPA from multiple size classes, the basal area per acre can change dramatically depending on this distribution of variably sized trees. For example, a stand that has 65 TPA comprised of 20 TPA at 8" DBH, 34 TPA at 18" DBH, 2 TPA at 30" DBH, and 9 TPA at 36" DBH will have a total basal area per acre of slightly over 140 ft^2 per acre. This scenario is entirely possible given the averages and ranges in Table 6 for historical (1930) stands. It would also be greater than the agency's self-created, arbitrary basal area threshold of 120 ft^2 per acre above which they state bark beetle-induced mortality is imminent. Thus, the agency would be implying that even if a current stand was treated so that it resembled a historical stand as theoretically presented here (which is, in part what the agency appears to want to achieve), it would still be under imminent threat of bark beetle-induced mortality according to the arbitrary 120 ft^2 basal area per acre threshold. It should also be noted that in this theoretical

stand that would be within the purported historical range for the Project Area, a basal area of 80 ft^2 per acre (the proposed target for post-treatment stands in the Project) is impossible.

Such an incongruency is highlighted further by the fact that the average TPA values for proposed post-treatment stands presented in Table 8 of the Project Description cannot possibly result in any amount of basal area between the 60 and 100 ft^2 per acre range that the agency says post-treatment stands will have (with 80 ft^2 per acre again being the target). The proposed post-treatment average TPA for each of the four size classes in ascending order is 3, 8, 34, and 13 according to Table 8. If all trees were the minimum DBH of each size class (e.g. all three trees in the 4 – 12" size class would be exactly 4" DBH), then the total basal area per acre would be approximately 205 ft^2 per acre. Again, this would be a minimum basal area value when considering that many of these trees would likely be greater than the minimum DBH within their size class. Thus, a central conflict arises between the target TPA values and the target basal area values given by the agency in the Project Description: they cannot both be true. A post-treatment stand with the average TPA for each size class given in Table 8 will have much higher basal area per acre than the 80 ft^2 per acre or even 60 – 100 ft^2 targets stated on page 17 of the Project Description.

It should be noted that the U.S. Forest Service in Region 5 has previously cited to Oliver (1995) correctly and has even, to some extent, addressed the question of whether such research is applicable to uneven aged stands such as those found in the Project Area. In the Silviculture Report prepared by Dan Roskopf for the Gibsonville Healthy Forest Restoration Project on the Feather Ranger District of the Plumas National Forest, Oliver (1995) is cited several times. For example:

> Basal area per acre is commonly used as a measure of stand density. This measure has been used by **Oliver (1995)** to describe the threshold for ponderosa pine (**150 square feet per acre**), above which bark beetle related mortality is expected to occur. This threshold is related to Sartwell's work (Sartwell 1971, Sartwell and Stevens 1975, Sartwell and Dolph 1976) with mountain pine beetle outbreaks as described by Powell (1999) where these "outbreaks could be attributed to two primary factors: second-growth ponderosa pine stands were evenaged and ecologically simplified **when compared with the uneven "virgin" forest**; and man's intentional suppression of wildfire effectively removed an important landscape-level thinning agent, which in turn caused an unnatural accumulation of stand density (basal area) as compared to virgin conditions."[24]

Perhaps a more important question is whether the agency would be able to accomplish the stated goal of increasing resistance (or the CE statute's requirement to promote resilience) to

[24] Roskopf, D., U.S. Forest Service. 2016. Gibsonville Healthy Forest Restoration Project: Silviculture Report (emphasis added).

bark beetle outbreaks through the Proposed Action. Few long-term studies of thinning projects and their impacts on subsequent bark beetle outbreaks have been conducted, and the studies that exist show mixed results due to complex site-specific factors.[25]

Studies that have shown success of such projects on reducing bark beetle mortality generally do not consider the treatment-caused mortality when considering the concept of a successful treatment. For instance, Fettig et al (2012)[26] examined the effect on bark beetle-induced tree mortality of various levels of thinning in comparison to unthinned areas in mixed-conifer forests in the Sierra Nevada. While they stated that "[i]n the present study, bark beetle-caused tree mortality was relatively low the decade after thinning, never reaching a level that would be considered epidemic for either *P. jeffreyi* or *P. ponderosa*…" the authors did not consider the initial mortality event caused by the thinning treatment itself. Their measure of success was whether the level of tree mortality in thinned stands was less than that in the unthinned stands, but apparently mortality was only significant to success if caused by bark beetles. When analyzing the data they present, it is actually quite simple to glean that the overall mortality (i.e. mortality from thinning plus mortality from subsequent bark beetles) in the three thinning treatments was substantial (109 – 289 trees killed per hectare on average) compared to the overall mortality in the unthinned stands (approximately 13 trees killed per hectare on average). Granted, the number of trees killed by bark beetles was slightly lower in the thinning treatments (3 – 11 trees killed per hectare on average) compared to the unthinned stand (13 trees killed per hectare on average), but this pales in comparison to overall number of trees killed due to the thinning itself. Another way to view this is, approximately 289 trees per hectare were killed in the most intensive treatment by the thinning itself in order to prevent 10 trees from being killed in the future by bark beetles.

Six et al. (2014)[27] notes a similar pattern:

> "Although more trees were killed overall in control units during the outbreak, all controls still retained a greater number of residual mature trees than did thinned stands as they entered the post-outbreak phase."

And a separate study in ponderosa pine forests in the Black Hills similarly demonstrated that far more trees were killed through the actual thinning process than through a subsequent bark

---

[25] Black, S.H., D. Kulakowski, B.R. Noon, and D.A. DellaSala. 2013. Do Bark Beetle Outbreaks Increase Wildfire Risks in the Central U.S. Rocky Mountains? Implications from Recent Research. *Natural Areas Association*, 33(1):59-65. doi.org/10.3375/043.033.0107

Six, D.L., E. Biber, and E. Long. 2014. Management for Mountain Pine Beetle Outbreak Suppression: Does Relevant Science Support Current Policy? Forests, 5(1):103-133. doi:10.3390/f5010103

[26] Fettig, C.J., C.J. Hayes, K.J. Jones, S.R. Mckelvey, S.L. Mori, and S. L. Smith. 2012. Thinning Jeffrey pine stands to reduce susceptibility to bark beetle infestations in California, U.S.A. *Agricultural and Forest Entomology*, 14:111-117. doi: 10.1111/j.1461-9563.2011.00543.x

[27] Six, D.L., E. Biber, and E. Long. 2014. Management for Mountain Pine Beetle Outbreak Suppression: Does Relevant Science Support Current Policy? Forests, 5(1):103-133. doi:10.3390/f5010103

beetle outbreak that was more severe than that experienced in the study by Fettig et al. (2012). Negron et al (2017)[28] examined stands in which the overall mortality (again, mortality caused by thinning plus mortality caused by bark beetles) was 242.6 trees killed per acre on average in thinned stands compared to 87.7 trees killed per acre in unthinned stands. As with other similar studies, the treatment was the primary source of mortality in the stand rather than bark beetles. By the end of the outbreak, not only were there more trees in the unthinned stands (203.2 TPA on average) compared to the thinned stands (55 TPA on average) as well as more basal area (which could be considered a proxy for both biomass and carbon storage; 67.8 ft^2 per acre compared to 32.3 ft^2 per acre).

Again, this pattern is consistent in multiple studies across various forest types in California and the western U.S., and it highlights that mixed-conifer and yellow pine forests are generally already resilient to bark beetle outbreaks. In examining forests that experienced multiple bark beetle outbreaks at different temporal and spatial scales, Andrus et al (2020)[29] concluded:

> We identified that greater pre-outbreak stand structural complexity and species diversity were key traits that provided stands with a high potential for physiognomic recovery, which supports the long-standing idea that diversity enhances ecological resilience.

The Proposed Action would clearly reduce structural complexity in the Project Area, and because a goal is to reduce abundance of certain tree species in combination with the fact that the Project activities are likely to increase the spread of non-native, invasive plants across the area (described in more detail below), it is very likely that the Proposed Action will also reduce species diversity. Thus, the Project may *reduce* ecosystem resilience to future disturbances such as bark beetle outbreaks.

As the Forest Service here is proposing a similar treatment (before some possible, unpredictable outbreak in the future), it is highly likely that many more trees would be killed and removed from the ecosystem than would ever succumb to bark beetles. A key question arises from these considerations: Would drastically increasing overall mortality through thinning compared to an unthinned stand and reducing structural complexity and species diversity make ecosystems in the Project Area more resilient? Not only has the agency not demonstrated—using the best available science—that the Proposed Action would promote resilience, it has only cited a single paper erroneously to justify this Proposed Action for the stated purpose of increasing *resistance* to bark beetles, which is wholly inadequate considering that the scientific literature has significantly documented the futility of such projects.

---

[28] Negron, J.F., K.K. Allen, A. Ambourn, B. Cook, and K. Marchand. 2017. Large-Scale Thinnings, Ponderosa Pine, and Mountain Pine Beetle in the Black Hills, USA. *Forest Science*. doi.org/10.5849/FS-2016-061

[29] Andrus, R.A., S.J. Hart, and T.T. Veblen. 2020. Forest recovery following synchronous outbreaks of spruce and western balsam bark beetle is slowed by ungulate browsing. *Ecology*, 101(5):e02998. doi.org/10.1002/ecy.2998

3. Effects of the Proposed Action on Future Wildfire Behavior

When considering the potential effects the Proposed Action would presumably have on future wildfire behavior, the Project Description is once again somewhat vague and inconsistent. Three questions must be answered to better determine whether the Proposed Action would be effective or whether it is even necessary: 1) What type of wildfire is undesirable in the Project Area? 2) What conditions would make this type of wildfire more likely? 3) How would the Proposed Action alter those conditions to reduce the probability of this type of wildfire from occurring? The Proposed Action does not adequately address these questions, thereby failing to demonstrate a need for the Project.

To determine what type of wildfire the agency considers undesirable in the Project Area, we can look at various statements in the Project Description:

> Frequent, low to moderate severity fire in mixed conifer and yellow pine forests played an integral role in maintaining these ecosystems historically.[30]

The Project Description does not cite any published science to support this statement. Many studies have found that historically mixed-severity fire was the dominant fire type on the landscape and continues to be today.[31] Mixed-severity fire occurs when a given wildfire burns

---

[30] U.S. Forest Service. 2020. Reyes Peak Forest Health and Fuels Reduction Project Description.

[31] Baker, W.L. and D. Ehle. 2001. Uncertainty in surface-fire history: the case of ponderosa pine forests in the western United States. *Canadian Journal of Forest Research*, 31(7):1205-1226. doi: 10.1139/cjfr-31-7-1205

Bekker, M.F. and A.H. Taylor. 2010. Fire disturbance, forest structure, and stand dynamics in montane forests of the southern Cascades, Thousand Lakes Wilderness, USA. *Ecoscience*, 17(1):59-72. doi: 10.2980/17-1-3247

Williams, M.A. and W.L. Baker. 2012. Spatially extensive reconstructions show variable-severity fire and heterogeneous structure in historical western United States dry forests. *Global Ecology and Biogeography*, 21:1042-1052. doi: 10.1111/j.1466-8238.2011.00750.x

Baker, W.L. 2014. Historical forest structure and fire in Sierran mixed-conifer forests reconstructed from General Land Office survey data. *Ecosphere*, 5(7):79. dx.doi.org/10.1890/ES14-00046.1

Odion, D.C., C.T. Hanson, A. Arsenault, W.L. Baker, D.A. DellaSala, R.L. Hutto, M.A. Moritz, R.L. Sherriff, T.T. Veblen, and M.A. Williams. 2014. Examining Historical and Current Mixed-Severity Fire Regimes in Ponderosa Pine and Mixed-Conifer Forests of Western North America. *PLoS ONE*, 9(2):e87852. doi:10.1371/journal.pone.0087852

Williams, M.A. and W.L. Baker. 2014. High-severity fire corroborated in historical dry forests of the western United States: response to Fulé et al. *Global Ecology and Biogeography*, 23:831-835. doi: 10.1111/geb.12152

Hanson, C.T. and D.C. Odion. 2016. Historical Forest Conditions with the Range of the Pacific Fisher and Spotted Owl in the Central and Southern Sierra Nevada, California, USA. Natural Areas Journal, 36(1):8-19. doi.org/10.3375/043.036.0106

Odion, D.C., C.T. Hanson, W.L. Baker, D.A. DellaSala, M.A. Williams. 2016. Areas of Agreement and Disagreement Regarding Ponderosa Pine and Mixed Conifer Forest Fire Regimes: A Dialogue with Stevens et al. *PLoS ONE*, 11(5):e0154579. doi:10.1371/journal.pone.0154579

Baker, W.L. 2017. Restoring and managing low-severity fire in dry-forest landscapes of the western USA. *PLoS ONE*, 12(2):e0172288. doi:10.1371/journal.pone.0172288

Baker, W.L. and M.A. Williams. 2018. Land surveys show regional variability of historical fire regimes and dry forest structure of the western United States. *Ecological Applications*, 28(2):284-290.

across the landscape with a variety of fire effects including low-severity (< 20% overhead canopy mortality measured by basal area reduction), moderate-severity (20 – 70% overhead canopy mortality measured by basal area reduction), and high-severity (> 70% overhead canopy mortality measured by basal area reduction) occurring in a mosaic pattern within the total burned area,[32] though importantly much of the delineated fire perimeter may actually be unburned.[33] Apparently the agency does not take issue with a fire burning with low- to moderate-severity effects, as the Project Description states that this was presumably the norm historically. The agency goes on to highlight the type of fire that is considered undesirable in the area is "stand-killing crown fires," "high intensity fires" (this term does not always share the same definition with high-severity fire, though we assume the two terms are used interchangeably here), and "stand-replacing fire."[34] The Project Description implies, without citing to published scientific studies, that any amount of high-severity fire is unnatural and undesirable and that a future fire has a high probability of being high-severity, therefore the Proposed Action is necessary. There are several issues that must be addressed here.

First, as there is ample evidence that mixed-severity fire was historically (before the era of modern fire suppression) dominant in mixed-conifer and yellow pine forests, then some amount of high-severity fire is a naturally-occurring event on these forested landscapes. Countless studies have demonstrated that the habitat created by high-severity fire in both mixed-conifer and yellow pine (dominated by either *P. ponderosa* and/or *P. jeffreyi*) is important for a variety of plants and wildlife.[35] Furthermore, the landscape heterogeneity

---

[32] Halofsky, J.E., D.C. Donato, D.E. Hibbs, J.L. Campbell, M. Donaghy Cannon, J.B. Fontaine, J.R. Thompson, R.G. Anthony, B.T. Bormann, L.J. Kayes, B.E. Law, D.L. Peterson, and T.A. Spies. 2011. Mixed-severity fire regimes: lessons and hypotheses from the Klamath-Siskiyou Ecoregion. *Ecosphere*, 2(4):art40. doi: 10.1890/ES10-00184.1

Odion, D.C., C.T. Hanson, A. Arsenault, W.L. Baker, D.A. DellaSala, R.L. Hutto, M.A. Moritz, R.L. Sherriff, T.T. Veblen, and M.A. Williams. 2014. Examining Historical and Current Mixed-Severity Fire Regimes in Ponderosa Pine and Mixed-Conifer Forests of Western North America. *PLoS ONE*, 9(2):e87852. doi:10.1371/journal.pone.0087852

[33] Kolden, C.A., J.A. Lutz, C.H. Key, J.T. Kane, and J.W. van Wagtendonk. 2012. Mapped versus actual burned area within wildfire perimeters: Characterizing the unburned. *Forest Ecology and Management*, 286:38-47. dx.doi.org/10.1016/j.foreco.2012.08.020

[34] U.S. Forest Service. 2020. Reyes Peak Forest Health and Fuels Reduction Project Description.

[35] Hutto, R.L. 2008. The ecological importance of severe wildfires: some like it hot. *Ecological Applications*, 18(8):1827-1834.

Odion, D.C., M.A. Moritz, and D.A. DellaSala. 2010. Alternative community states maintained by fire in the Klamath Mountains, USA. *Journal of Ecology*, 98:96-105. doi: 10.1111/j.1365-2745.2009.01597.x

Buchalski, M.R., J.B. Fontaine, P.A. Heady III, J.P. Hayes, and W.F. Frick. 2013. Bat Response to Differing Fire Severity in Mixed-Conifer Forest California, USA. *PLoS ONE*, 8(3):e57884. doi:10.1371/journal.pone.0057884

DellaSala, D.A., M.L. Bond, C.T. Hanson, R.L. Hutto, and D.C. Odion. 2014. Complex Early Seral Forests of the Sierra Nevada: What are They and How Can They Be Managed for Ecological Integrity? *Natural Areas Journal*, 34(3):310-324. doi.org/10.3375/043.034.0317

created by mixed-severity fire is likely important for conferring adaptation and resilience in these forests in the face of climate change and against future disturbances.[36] It is also important to note that conifer regeneration is generally occurring unimpeded (though often staggered both temporally and spatially, which again creates more landscape heterogeneity that may be important for adaptive resilience) in areas that have burned at high-severity as part of a larger mixed-severity fire in recent years[37] indicating that forests go through natural and important successional processes following such disturbances—a sign of ecosystem resilience to wildfire.

However, the Project Description does not provide any of this context nor does it cite any relevant literature. Rather, the agency states that "[r]ecovery from large, high severity burns is likely to be impeded by the small and disparate nature of mixed conifer forests and limited seed dispersal capabilities of remaining trees" while citing a single study (and quoting that study's abstract verbatim in the process). Importantly, that study 1) did not actually measure conifer regeneration in high-severity fire patches and 2) erroneously stated in its conclusion when referencing high-severity fire patches in mixed-conifer and yellow pine forests that "[e]ven if these large patches of forest eventually recover, there will be many years in which they are not functioning as healthy mixed conifer habitat."[38] This statement is erroneous, of course, because a portion of mixed-conifer forest that has experienced high-severity fire that eventually

---

Hutto, R.L., R.E. Keane, R.L. Sherriff, C.T. Rota, L.A. Eby, and V.A. Saab. 2016. Toward a more ecologically informed view of severe forest fires. *Ecosphere*, 7(2):e01255. doi: 10.1002/ecs2.1255

Tingley, M.W., V. Ruiz-Gutierrez, R.L. Wilkerson, C.A. Howell, and R.B. Siegel. 2016. Pyrodiversity promotes avian diversity over the decade following forest fire. *Proceedings of the Royal Society B*, 283:20161703. doi.org/10.1098/rspb.2016.1703

Hanson, C.T. 2018. Landscape Heterogeneity Following High-Severity Fire in California's Forests. *Wildlife Society Bulletin*, 42(2):264-271. doi: 10.1002/wsb.871

[36] Swanson, M.E., J.F. Franklin, R.L. Beschta, C.M. Crisafulli, D.A. DellaSala, R.L. Hutto, D.B. Lindenmayer, and F.J. Swanson. 2011. The forgotten stage of forest succession: early-successional ecosystems on forest sites. *Frontiers in Ecology and the Environment*, 9(2):117-125. doi:10.1890/090157

Baker, W.L. and M.A. Williams. 2015. Bet-hedging dry-forest resilience to climate-change threats in the western USA based on historical forest structure. *Frontiers in Ecology and Evolution*, 2:88. doi: 10.3389/fevo.2014.00088

Seidl, R., D.C. Donato, K.F. Raffa, and M.G. Turner. 2016. Spatial variability in tree regeneration after wildfire delays and dampens future bark beetle outbreaks. *PNAS*, 113(46):13075-13080. doi.org/10.1073/pnas.1615263113

[37] Shatford, J.P.A., D.E. Hibbs, and K.J. Puettmann. 2007. Conifer Regeneration after Forest Fire in the Klamath-Siskiyous: How Much, How Soon? *Journal of Forestry*, 105(3):139-146.

Owen, S.M., C.H. Sieg, A.J. Sanchez Meador, P.Z. Fule, J.M. Iniguez, L.S. Baggett, P.J. Fornwalt, and M.A. Battaglia. 2017. Spatial patterns of ponderosa pine regeneration in high-severity burn patches. *Forest Ecology and Management*, 405:134-149. dx.doi.org/10.1016/j.foreco.2017.09.005

Hanson, C.T. 2018. Landscape Heterogeneity Following High-Severity Fire in California's Forests. *Wildlife Society Bulletin*, 42(2):264-271. doi: 10.1002/wsb.871

Kauffman, J.B., L.M. Ellsworth, D.M. Bell, S. Acker, and J. Kertis. 2019. Forest structure and biomass reflects the variable effects of fire and land use 15 and 29 years following fire in the western Cascades, Oregon.

[38] Nigro, K. and N. Molinari. 2019. Status and trends of fire activity in southern California yellow pine and mixed conifer forests. *Forest Ecology and Management*, 441:20-31. doi.org/10.1016/j.foreco.2019.01.020

"recovers" (i.e. returns to its pre-fire state) is then, during the years between the fire and this return to a pre-fire state, still a healthy functioning ecosystem that is simply going through natural forest succession processes. Again, these early-successional phases can be important on large spatial and temporal scales as stated above.

Furthermore, high-intensity or high-severity (which is the term mostly used by the agency here and is used in defining Fire Regime Groups) fire has historically and continues to be the norm on chaparral-dominated landscapes.[39] The agency correctly acknowledges the natural fire regime for chaparral, even citing one of the co-authoring organizations of this letter. The Project Description states:

> Being prone to infrequent large, high intensity wildfires is the natural condition of chaparral (California Chaparral Institute).[40]

Elsewhere the Project Description states that "[t]he natural fire return interval for chaparral is 30 to 150 years."[41] Indeed, the natural fire regime for chaparral can be described as one that is characterized by large, high-intensity crown fires that occur infrequently (every 30 to 150 years or more).[42] However, the Project Description uses conflicting language elsewhere:

> As displayed in table 1, there are approximately 272 acres of the project area that is characterized as chaparral within Fire Regime Group I. Fire Regime Group I is defined as having a **0- to 35-year frequency with a low/mixed fire severity**.[43]

This statement references Table 1 in the Project Description, but that table does not display Fire Regime Group classifications, thus it is likely that the agency meant to reference Table 2 in the Project Description. Regardless, the statement is in contradiction with the correct characterization of the natural chaparral fire regime as stated above. It should be noted that the Fire Regime Group classifications are not based on *current* fire regimes (e.g. many

---

[39] Keeley, J.E. and P.H. Zedler. 2009. Large, high-intensity fire events in southern California shrublands: debunking the fine-grain age patch model. *Ecological Applications*, 19(1):69-94.
Halsey, R. W. and A.D. Syphard. 2015. High-Severity Fire in Chaparral: Cognitive Dissonance in the Shrublands. D. A. DellaSala and C.T. Hanson, Eds. In *The Ecological importance of Mixed-severity Fires: Nature's Phoenix*, pp. 177-209. Amsterdam: Elsevier.
Parker, V.T. 2020. Chaparral of California. M.I. Goldstein and D.A. DellaSala, Eds. In Encyclopedia of the World's Biomas, vol. 3, pp. 457-72. Amsterdam: Elsevier.

[40] U.S. Forest Service. 2020. Reyes Peak Forest Health and Fuels Reduction Project Description. pg. 5

[41] *Id.* pg. 6

[42] Halsey, R. W. and A.D. Syphard. 2015. High-Severity Fire in Chaparral: Cognitive Dissonance in the Shrublands. D. A. DellaSala and C.T. Hanson, Eds. In *The Ecological importance of Mixed-severity Fires: Nature's Phoenix*, pp. 177-209. Amsterdam: Elsevier.Parker 2020

[43] U.S. Forest Service. 2020. Reyes Peak Forest Health and Fuels Reduction Project Description. pg. 6

chaparral-dominated areas in California are experienced overly frequent fire[44]) but rather *historical* fire regimes according to the Project Description:

> Coarse scale definitions for natural (**historical**) fire regimes have been developed and interpreted for fire and fuels management. The five natural (**historical**) fire regimes are classified based on average number of years between fires (fire frequency) combined with the severity (amount of replacement) of the fire on the dominant over story vegetation (Hann and Bunnell 2001) and are displayed in table 2.[45]

Given this understanding of the natural (historical) fire regime for chaparral, it is unclear why most of the chaparral-dominated area within the Project area would be classified as Fire Regime Group I. The Project Description does not describe how these areas were classified and, again, nor does it contain a map of Fire Regime Group distribution. Considering the definitions of Fire Regime Group classifications and the well-documented natural fire regime that characterizes chaparral, the 307 acres of chaparral described as Fire Regime Group I or III[46] should instead be described as Fire Regime Group IV (high-severity fire every 35 – 200+ years). Correctly categorizing the fire regime of these ecosystems must incorporate the best available science, which the agency has not done here.

The Project Description overall paints high-severity (and high-intensity) fire negatively despite its importance temporally and spatially in the region. It is clear that the agency finds this type of fire to be undesirable, which answers a question posed earlier in this subsection: What type of wildfire is undesirable in the Project Area?

The second question is, what conditions would make the type of fire described above more likely? The agency again provides little information that generally lacks context. Below are several statements in the Project Description that describe conditions deemed or implied to increase the risk of high-severity fire:

> The exclusion of fire has allowed biomass to accumulate in forested and chaparral vegetation types.[47]

> Surface fuel loading levels, trees that are dead and dying due to insect and disease, and natural forest succession make stand-replacing fire an ongoing risk to the landscape.[48]

---

[44] Halsey, R. W. and A.D. Syphard. 2015. High-Severity Fire in Chaparral: Cognitive Dissonance in the Shrublands. D. A. DellaSala and C.T. Hanson, Eds. In *The Ecological importance of Mixed-severity Fires: Nature's Phoenix*, pp. 177-209. Amsterdam: Elsevier.Parker 2020

[45] U.S. Forest Service. 2020. Reyes Peak Forest Health and Fuels Reduction Project Description. pg. 6

[46] *Id.,* see Table 3

[47] *Id.* pg. 4

[48] *Id*.

> Stand exams taken in the project area, coupled with walk-throughs by Forest professionals confirm that existing stand density and structure puts the area at risk from insects and disease, as well as from wildfire.[49]
>
> This mortality combined with stand structure and drought is increasing the risk of a stand-replacing wildfire.[50]
>
> The understory ladder fuels, existing hazardous fuel loads and continued periods of drought place these areas at risk from wildfire.[51]

These statements all focus on a single contributing factor to fire: fuel (vegetation, live and dead). While this may be the one factor that is alterable, other factors such as climate, weather, and topography exert a stronger influence over fire-severity.[52]

For example, a study examining factors determining fire severity during the 2013 Rim Fire in the Sierra Nevada found that fire severity tended to be driven by daily fire weather conditions in forests that had burned relatively recently (which the authors considered "fire restored" as they had burned multiple times in previous decades with the last fire at least 17 years earlier), with mostly low- to moderate-severity fire occurring under milder weather conditions.[53]

Another study found that daily fire weather was the strongest driver of fire severity, with pre-fire biomass being an unimportant predictor of fire severity.[54] Similarly, Thompson and Spies (2009)[55] found that weather was the most important determinant for fire severity during a large wildfire.

Even for wildfires that burned in areas with previous bark beetle outbreaks (and thus a greater number of dead trees or amount of downed woody material), fire weather variables such as

---

[49] *Id*. pg. 10
[50] *Id*. pg. 11
[51] *Id.* pg. 12
[52] Dillon, G.K., Z.A. Holden, P. Morgan, M.A. Crimmins, E.K. Heyerdahl, and C.H. Luce. 2011. Both topography and climate affected forest and woodland burn severity in two regions of the western US, 1984 to 2006. *Ecosphere*, 2(12):130. doi: 10.1890/ES11-00271.1
[53] Lydersen, J.M., M.P. North, and B.M. Collins. 2014. Severity of an uncharacteristically large wildfire, the Rim Fire, in forests with relatively restored frequent fire regimes. *Forest Ecology and Management*, 328:326-334. dx.doi.org/10.1016/j.foreco.2014.06.005
[54] Zald, H.S.J. and C.J. Dunn. 2018. Severe fire weather and intensive forest management increase fire severity in a multi-ownership landscape. *Ecological Applications*, 28(4):1068-1080. https://doi.org/10.5061/dryad.3gv5c78
[55] Thompson, J.R. and T.A. Spies. 2009. Vegetation and weather explain variation in crown damage within a large mixed-severity fire. *Forest Ecology and Management*, 258:1684-1694. doi: 10.1016/j.foreco.2009.07.031

maximum daily temperature and wind speed were the most important predictors of fire severity in one study.[56] That study concludes:

> Here, we found daily fire growth was sensitive to both daily weather variability (maximum temperature, gust speed, and relative humidity) and moderate-term drought (ERC), supportive of the idea that variation in weather is a key driver of fire size. Thus, predictions of future wildfire should incorporate both the effects of slowly changing broad-scale climate, which promote periods of widespread wildfire, and extreme weather events, which lead to rapid periods of fire growth.

Similarly, another study found that antecedent temperatures and low precipitation were more important factors in determining wildfire extent than previous bark beetle outbreaks.[57] Furthermore, intraseasonal precipitation patterns may also exert a strong influence over fire severity.[58]

Perhaps most pertinent to this discussion is the 2016 Pine Fire, which burned just one mile to the east of the Project Area along the same ridgeline (i.e. at approximately the same elevation) in the same forest types and in chaparral and hardwood areas. This fire burned a little over 2,300 acres and burned mostly under moderate weather conditions. Based on the FRAP database, approximately 70% of the area within the Pine Fire perimeter had no fire history prior to 2016. Approximately 30% of the area had previously burned in 1932 (i.e. 84 years since last recorded fire). And only 4% of the area had burned more recently (in the 2002 Wolf Fire), all of which had also burned in the 1932 Matilija Fire. This fire history is displayed in Figure 3. Thus, the vast majority of the area burned in 2016 had not burned in at least 84 years. This is similar to some areas within the Project Area.

Despite the amount of time since the previous fire, most of the Pine Fire area burned at low- to moderate-severity. According to the Monitoring Trends in Burn Severity database[59] prepared in part by the Forest Service, the Pine Fire was characterized as predominantly unburned, low-, or moderate- severity fire (2,008 acres or 86% of the total area) and as high-severity to a much smaller extent (336 acres or 14%) as shown in Figure 4.

Furthermore, using the Forest Service's own vegetation cover dataset (CALVEG, crosswalked with the California Wildlife Habitat Relationships dataset), we know that the approximately 336

---

[56] Hart, S.J. and D.L. Preston. 2020. Fire weather drives daily area burned and observations of fire behavior in mountain pine beetle affected landscapes. *Environmental Research Letters*, 15:054007. doi.org/10.1088/1748-9326/ab7953

[57] Mietkiewicz, N. and D. Kulakowski. 2016. Relative importance of climate and mountain pine beetle outbreaks on the occurrence of large wildfires in the western USA. *Ecological Applications*, 26(8):2525-2537. doi.org/10.1002/eap.1400

[58] Holden, Z.A., P. Morgan, M.A. Crimmins, R.K. Steinhorst, and A.M.S. Smith. 2007. Fire season precipitation variability influences fire extent and severity in a large southwestern wilderness area, United States. *Geophysical Research Letters*, 34:L16708. doi:10.1029/2007GL030804

[59] Monitoring Trends in Burn Severity program. https://www.mtbs.gov/

acres that burned at high severity during the 2016 Pine Fire were characterized primarily as montane hardwood (115 acres or 34%) which is generally comprised of canyon live oak (*Quercus chrysolepis*) and montane chaparral (91 acres or 27%). The remaining 130 acres included mostly montane hardwood-conifer and, to a very small extent, other coniferous forest types such as Sierran mixed-conifer. The vegetation types found throughout the burned area can be seen in Figure 5 while the vegetation types found in just those areas that burned at high severity can be seen in Figure 6. Thus, conifer forest types were relatively unaffected by high severity fire.

Approximately 847 acres of Sierran mixed-conifer within the fire perimeter burned at low- to moderate-severity with a very small portion remaining unburned. This accounted for nearly 96% of all Sierran mixed-conifer forest within the fire perimeter. Additionally, nearly 90% of yellow pine forest (composed primarily of Jeffrey pine) within the fire perimeter burned at either low- or moderate-severity with a smaller portion remaining unburned.

Furthermore, when looking at the contiguous high-severity fire patches within the Pine Fire perimeter (with multiple vegetation types often included in a single patch), the maximum high severity fire patch size was 104 acres, which is only 42% of the maximum size that the agency alleges occurred historically according to the single study cited[60], which itself only cites an agency report about the presumed amount of high-severity on the historical landscape. That study also only considered high-severity patches in mixed-conifer and yellow pine forest types, meaning that because the high-severity fire patches in the 2016 Pine Fire include mostly chaparral or hardwood forest, they are much larger than if we only looked at patches that include just mixed-conifer or yellow pine forest. And yet, the largest patch in the Pine Fire is still less than half of the supposed historical maximum size, and the mean patch size (approximately 4.5 acres[61]) is less than half of the upper limit of the alleged historical mean patch size according to the agency.

Thus, a recent fire in an adjacent area dominated by the same ecosystem types and that had not experienced fire for over 80 years included only a relatively small area that burned at high severity. Much of this area that burned at high severity consisted of chaparral, which naturally burns at high intensity/severity. Only very small portions of coniferous forest burned at high severity, and were well within the historic range of variability, even according to the one scientific study the agency cites (which, again, only cites a U.S. Forest Service report when discussing historic sizes of high severity patches). And the size of the high severity fire patches

[60] Nigro, K. and N. Molinari. 2019. Status and trends of fire activity in southern California yellow pine and mixed conifer forests. *Forest Ecology and Management*, 441:20-31. doi.org/10.1016/j.foreco.2019.01.020

[61] *Id*.

in the Pine Fire were well within the supposed historic range of variability (a range that is highly contested in the scientific literature[62]).

The agency implies in its Project Description that the Project Area will burn mostly at high severity in a future fire if vegetation is not removed beforehand. Yet, this idea was not borne out in the recent Pine Fire, which burned an area that had experienced no pre-fire vegetation projects to our knowledge and would therefore have had similar amounts of biomass or possibly more to the Project Area.

Moreover, the Project Description does not mention the importance of climate and weather when discussing potential future fire behavior, instead implying that forests in the Project Area are only at risk of high-severity fire (though again, this type of fire is a natural component of a landscape historically dominated by mixed-severity fire) because of vegetation conditions. The agency does not acknowledge that fire weather conditions are likely to drive fire severity in the area regardless of vegetation conditions, which is supported by the fire severity patterns in the recent and nearby 2016 Pine Fire. The end result is that the agency overstates its ability to alter future fire behavior through the Proposed Action and understates the existing resilience of the area's ecosystems to wildfires.

Thus, the third and final question must be answered: How would the Proposed Action alter those conditions to reduce the probability of this type of wildfire from occurring? The agency states in several ways in the Project Description that the Proposed Action would alter future wildfire behavior and risk. For example:

> The proposed treatments would reduce hazardous surface, ladder and crown fuels….[63]

One goal of the Proposed Action is to also "encourage tree recruitment that contain a species mix more like pre-settlement composition, (with a higher representation of shade-intolerant species such as ponderosa pine that have declined during the period of fire suppression)"[64] which generally implies that the presence of shade-tolerant species such as white fir (*Abies concolor*) is problematic. Such statements about white fir or other shade-tolerant species often imply that the species increase wildfire risk. It should be noted that the agency does not cite to any scientific studies that support the above quoted statement. Furthermore, by mentioning ladder fuels, the agency is also stating that small trees are problematic from a wildfire perspective.

---

[62] Odion, D.C., C.T. Hanson, W.L. Baker, D.A. DellaSala, M.A. Williams. 2016. Areas of Agreement and Disagreement Regarding Ponderosa Pine and Mixed Conifer Forest Fire Regimes: A Dialogue with Stevens et al. *PLoS ONE*, 11(5):e0154579. doi:10.1371/journal.pone.0154579

[63] U.S. Forest Service. 2020. Reyes Peak Forest Health and Fuels Reduction Project Description. pg. 17

[64] *Id*. pg. 12

However, Lydersen et al. (2014)[65] found that stands with higher levels of shade-tolerant basal area and densities of small trees tended to burn at *lower* severity during the 2013 Rim Fire in the Sierra Nevada:

> Several forest structure variables were somewhat important in predicting fire severity; however the nature of these relationships with fire severity was different than what is often suggested. For example, plots with greater white fir basal area, a species generally associated with greater sensitivity to fire, tended to burn with lower fire severity. This effect was marginal but still present when plots that burned on a plume-dominated day were removed from the analysis. Similarly, lower fire severity was also observed in plots with a greater proportion of shade-intolerant species (proportion of white fir and incense-cedar relative to pine and oak species), although the effect was marginal in both analyses. Density of small to intermediate size trees (20–40 cm dbh in the analysis with all plots and both 40–60 cm and 60–80 cm dbh in the analysis excluding plots burned on a plume-dominated day) were also related to Rim Fire severity, with plots with a greater small tree density tending to burn with lower severity.

Thus, in mixed-conifer stands, the presence of small trees or shade-tolerant species does not necessarily increase fire severity even during a large wildfire event.

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".[66] A research report by Omi and Martinson (2002)[67] states: "Evidence of fuel treatment efficacy for reducing wildfire damages is largely restricted to anecdotal observations and simulations."

In a large analysis of fires and fuel treatments across forests in eleven states (the western portion of the contiguous U.S.), including in California, Rhodes and Baker (2008)[68] found that the probability of a fuel treatment even encountering a fire over a 20-year period following the implementation of the fuel treatment:

> …our results indicate that, on average, approximately 2.0 to 4.2% of areas treated to reduce fuels are likely to encounter fires that would otherwise be high

---

[65] Lydersen, J.M., M.P. North, and B.M. Collins. 2014. Severity of an uncharacteristically large wildfire, the Rim Fire, in forests with relatively restored frequent fire regimes. *Forest Ecology and Management*, 328:326-334. dx.doi.org/10.1016/j.foreco.2014.06.005

[66] U.S. General Accounting Office. 1999. Western National Forests: A Cohesive Strategy is Needed to Address Catastrophic Wildfire Threats. GAO/RCED-99-65. pg. 56

[67] Omi, P.N. and E.J. Martinson. 2002. Effects of Fuels Treatment on Wildfire Severity. Report to Joint Fire Science Program Governing Board. pg. 1

[68] Rhodes, J.J. and W.L. Baker. 2008. Fire Probability, Fuel Treatment Effectiveness and Ecological Tradeoffs in Western U.S. Public Forests. *The Open Forest Science Journal*, 1:1-7. doi: 1874-4208/08

> or high-moderate severity without treatment. In the remaining 95.8-98.0% of treated areas, potentially adverse treatment effects on watersheds are not counterbalanced by benefits from reduced fire severity.

Schoennagel et al. (2017)[69] similarly found that only 1% of fuel treatments in national forests experience fire each year on average, "suggesting that most treatments have little influence on wildfire."

In fact, there is scientific evidence that thinning can make the fuel hazard worse instead of better. Graham et al. (2004)[70] noted that "[d]etailed site-specific data on anything beyond basic forest structure and fuel properties are rare, limiting our analytical capability to prescribe management actions to achieve desired conditions for altering fuels and fire hazard." Further, thinning can alter the heating of the understory and subsequently reduce moisture levels:

> Thinning opens stands to greater solar radiation and wind movement, resulting in warmer temperatures and drier fuels throughout the fire season.
>
> [T]his openness can encourage a surface fire to spread…Opening up closed forests through selective logging can accelerate the spread of fire through them because a physical principle of combustion is that reducing the bulk density of potential fuel increases the velocity of the combustion reaction. Wind can flow more rapidly through the flaming zone. Thinned stands have more sun exposure in the understory, and a warmer microclimate, which facilitates fire (Countryman 1955)…
>
> [F]uel reduction activities – particularly mechanized treatments – inevitably function to disturb soils and promote the invasion and establishment of non-native species. Pile burned areas associated with the treatments are also prone to invasion (Korb et al. 2004). Annual grasses can invade treated areas if light levels are high enough, leading to increased likelihood of ignition, and more rapid spread of fire, which can further favor annual grasses (Mack and D'Antonio 1998). This type of feedback loop following the establishment of non-native plants may result in an altered fire regime for an impacted region, requiring extensive (and expensive) remedial action by land managers (Brooks et al. 2004).[71]

---

[69] Schoenagel, T., J.K. Balch, H. Brenkert-Smith, P.E. Dennison, B.J. Harvey, M.A. Krawchuk, N. Mietkiewicz, P. Morgan, M.A. Moritz, R. Rasker, M.G. Turner, and C. Whitlock. 2017. Adapt to more wildfire in western North American forests as climate changes. *PNAS*, 114(18):4582-4590. doi.org/10.1073/pnas.1617464114

[70] Graham, R.T., McCaffrey, S., and Jain, T.B. 2004. Science Basis for Changing Forest Structure to Modify Wildfire Behavior and Severity. General Technical Report RMRS-GTR-120. U.S. Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.

[71] Odion, Dennis. 2004. Declaration in NWEA v. Forest Service. c*iting* Countryman, C. M. 1955. Old-growth conversion also converts fire climate. U.S. Forest Service Fire Control Notes 17:15-19.

The authors of a study that analyzed fires in thinned and unthinned areas in Sierra Nevada forests noted:

> Thinned areas predominantly burned at high severity, while unthinned areas burned predominantly at low and moderate severity….
>
> …combined mortality was higher in thinned than in unthinned units.[72]

Hanson and Odion (2006)[73] went on to suggest that mechanical thinning may have "effectively lowered the fire weather threshold necessary for high severity fire occurrence." Furthermore, researchers with the U.S. Forest Service acknowledge the potential for thinning to create more intense conditions for surface fire spread:

> Theoretically, fuel treatments have the potential to exacerbate fire behavior. Crown fuel reduction exposes surface fuels to increased solar radiation, which would be expected to lower fuel moisture content and promote production of fine herbaceous fuels. Surface fuels may also be exposed to intensified wind fields, accelerating both desiccation and heat transfer.
>
> Treatments that include prescribed burning will increase nutrient availability and further stimulate production of fuels with high surface-area- to-volume ratios. All these factors facilitate the combustion process, increase rates of heat release, and intensify surface fire behavior….
>
> Thus, treatments that reduce canopy fuels increase and decrease fire hazard simultaneously. With little empirical evidence and an infant crown fire theory, fuel treatment practitioners have gambled that a reduction in crown fuels outweighs any increase in surface fire hazard….

A recent study also found that protected forests (those with more restrictions on logging activities such as those in the Proposed Action) had lower fire severity levels over a 30-year period (and across 1,500 fires), but they actually had *lower* fire severity levels despite being identified as having increased biomass and fuel loading compared to less-protected forests with more logging activities.[74]

Along these lines, a recent Ninth Circuit Court of Appeals decision for a case that involved an approved project that involved thinning in mixed-conifer forests states:

---

[72] Hanson, C.T. and D.C. Odion. 2006. Fire severity in mechanically thinned versus unthinned forests of the Sierra Nevada, California. In: Proceedings of the 3rd International Fire Ecology and Management Congress, November 13-17, 2006, San Diego, CA.

[73] *Id.*

[74] 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 United States? *Ecosphere*, 7(10):e01492. doi: 10.1002/ecs2.1492

> Substantial expert opinion presented by the Appellants during the administrative process disputes the [U.S. Forest Service's] conclusion that thinning is helpful for fire suppression and safety…. Appellants thus have shown a substantial dispute about the effect of variable density thinning on fire suppression. [75]

Furthermore, the decision pointed to the agency's own fuels specialist report in discussing such activities' potential effects on fire spread:

> Importantly, even the Fuels Specialist Report produced by the [U.S. Forest Service] itself noted that "reducing canopy cover can also have the effect of increasing [a fire's rate of spread] by allowing solar radiation to dry surface fuels, allowing finer fuels to grow on . . . the forest floor, and reducing the impact of sheltering from wind the canopy provides."[76]

Additionally, significant scientific controversy exists surrounding the effectiveness of fuel breaks specifically, with many studies showing that they are ineffective under the extreme weather conditions that accompany most large fires in southern California. The Forest Service even acknowledges that fuel breaks may not be effective under extreme conditions by stating that fuel breaks are not designed to stop fire spread "especially during periods of strong winds when fire brands can be blown across these linear features."[77] It should be noted that fires that occur under these conditions (i.e. strong winds) cause the vast majority of damage to communities in California.[78] In a review of fuel break effectiveness in the Los Padres National Forest over a 28-year period involving 342 miles of fuel breaks, the researchers concluded that wildfire did not intersect with most (79%) of the fuel breaks in the main division of the Los Padres National Forest. Continuing:

> The fact that a substantial proportion of the fuel breaks never intersected a fire during the course of the study suggests that fuel breaks have not historically been placed in areas where fires are most likely to intersect them. Although it is possible that a fire may cross these fuel breaks in the future, fire managers might want to consider focusing maintenance and new construction in areas where fires and fuel treatments are most likely to intersect and thus provide greater opportunities for controlling fires….
>
> Although fuel breaks surrounding communities clearly serve an important role in creating a safe space for firefighting activities, **fuel breaks in remote areas and**

---

[75] *Bark v. United States Forest Service*, 958 F.3d 865 (9th Cir. 2020)
[76] *Id.* at 10
[77] U.S. Forest Service. 2020. Reyes Peak Forest Health and Fuels Reduction Project Description. pg. 17
[78] Jin, Y., M.L. Goulden, N. Faivre, S. Veraverbeke, F. Sun, A. Hall, M.S. Hand, S. Hook, and J.T. Randerson. 2015. Identification of two distinct fire regimes in Southern California: implications for economic impact and future change. *Environmental Research Letters*, 10:094005. doi:10.1088/1748-9326/10/9/094005

> **in areas that rarely or never intersect fires** have a lower probability to serve a beneficial function.[79]

The same study found that of the 30 recorded instances of a fire spreading across a fuel break, firefighters were present 67% of the time, indicating that even with firefighters present, fuel breaks often do not work to control wildfire spread. This may indicate that even under moderate weather conditions (when fuel breaks may be more accessible), fuel breaks are often ineffective. Moreover, it is during these extreme weather-driven fires that most of the damage communities (e.g. structure loss) occurs.[80]

As the Project Area is remote (i.e. it is several miles from any community and is not in the wildland-urban interface ("WUI," described in more detail in other sections of this letter) and—as stated in the Project Description[81]—has not been intersected by a fire in 80 years, the ability of the ridge to act as an effective fuel break that protects communities (especially during extreme weather conditions) is seriously in doubt. The agency also notes that "[d]ozer lines have been continuously re-opened within the project area as a result of the Day, Zaca, Pine, and Thomas fires."[82] However, the dozer lines opened in the Project Area were never used for direct suppression activities. Rather, they were indirect or contingency lines that were generally miles away from those wildfires. Thus, the fact that the ridge has been used in the past to create fire lines that were never used to fight large wildfires in the region is not a good reason to create a fuel break in the same area.

Furthermore, the construction and maintenance of fuel breaks may lead to an increase in invasive plants in the Project Area that, in turn, could spread to surrounding wildlands. One fire scientist wrote:

> Fuel manipulation can contribute to invasion by exotic plants. For example, fuel breaks can act as invasive highways, carrying exotic species into uninfested wildlands. Normally destroyed by stand-replacing fires, exotic seed banks can survive the lower fire severities in fuel breaks, resulting in source populations poised to invade adjacent burned sites….
>
> Fuel manipulations such as fuel breaks can create favorable conditions for nonnative weeds, increasing their movement into wildlands and building seed sources capable of invading after fire.[83]

---

[79] Syphard, A.D., J.E. Keeley, and T.J. Brennan. 2011. Factors affecting fuel break effectiveness in the control of large fires on the Los Padres National Forest, California. *International Journal of Wildland Fire*, 20:764-775.

[80] Syphard, A.D. and J.E. Keeley. 2019. Factors Associated with Structure Loss in the 2013-2018 California Wildfires. *Fire*, 2:49. doi:10.3390/fire2030049

[81] U.S. Forest Service. 2020. Reyes Peak Forest Health and Fuels Reduction Project Description. See Figure 3

[82] *Id.* pg. 12

[83] Keeley, J.E. 2003. Fire and invasive plants in California ecosystems. *Fire Management*, 63(2):18-19.

Elsewhere, the same researcher states:

> Forests and shrublands, particularly in California, have had a long history of experimentation with different types of fuel breaks. They are constructed to create barriers to fire spread and to provide access and defensible space for fire-suppression crews during wildfires. These activities have the potential for creating suitable sites for alien plant invasion, and invasion is closely tied to the loss in overstory cover. In a recent study of 24 fuel breaks distributed throughout California, alien plants constituted as much as 70% of the plant cover and the proportion of aliens varied significantly with distance to roads, fuel break age, construction method, and maintenance frequency (Merriam et al. 2006). The association of alien species with fuel breaks raises two critical concerns. One is that the linear connectedness of these disturbance zones acts as corridors for alien invasion into wildland areas. Another is that these zones of reduced fuels produce lower temperatures and thus safe sites for alien propagules during wildfires, ensuring survivorship of seed banks (Keeley 2001, 2004b). Consequently, following fires these fuel breaks represent a major source area for alien invasion of adjacent wildlands.[84]

Invasive plants such as cheatgrass (*Bromus tectorum*)—which is present in the Project Area, particularly within the dozer lines opened during the Thomas Fire (Figure 7)—can alter fire regimes, fire behavior, ignition probability, and other aspects of wildfire risk as they become more prominent on the landscape.[85] This is especially true in chaparral ecosystems, but non-native plant invasion in forests—particularly following fuel treatments—is an increasing concern.[86]

Brooks et al. (2004)[87] noted in regard to the effect of invasive plants on fuel continuity:

> Horizontal fuel continuity can affect how wind moves across the vegetation canopy, which in turn can influence the rate of fire spread.

The authors also note that invasive plants can alter the fuel packing ratio:

> Changes in fuel packing ratios can either increase or decrease fuel flammability, depending on the optimal ratio for combustion of a given fuel type. For example,

---

[84] Keeley, J.E. 2006. Fire management impacts on invasive plants in the western United States. *Conservation Biology*, 20(2):375-384. doi: 10.1111/j.1523-1739.2006.00339.x

[85] Brooks, M.L., C.M. D'Antonio, D.M. Richardson, J.B. Grace, J.E. Keeley, J.M. DiTomaso, R.J. Hobbs, M. Pellant, and D. Pyke. 2004. Effects of invasive alien plants on fire regimes. *Bioscience*, 54(7):677-688.

[86] Keeley, J.E. 2006. Fire management impacts on invasive plants in the western United States. *Conservation Biology*, 20(2):375-384. doi: 10.1111/j.1523-1739.2006.00339.x

[87] Brooks, M.L., C.M. D'Antonio, D.M. Richardson, J.B. Grace, J.E. Keeley, J.M. DiTomaso, R.J. Hobbs, M. Pellant, and D. Pyke. 2004. Effects of invasive alien plants on fire regimes. *Bioscience*, 54(7):677-688.

grass invasions into shrublands, or shrub invasions into grasslands, can change the fuel packing ratio, respectively increasing and decreasing the chance of fire.[88]

Thus, in the Project Area—especially in the chaparral-dominated portions of the landscape—any shift to a greater abundance of invasive plants such as *B. tectorum* could increase the chance of fire occurring and the rate at which fire spreads. A large-scale study also found that non-native grass invasions can significantly alter fire regimes by increasing fire occurrence.[89]

A large evaluation of fuel treatments in chaparral in northern California found the following:

- In sites where understory vegetation is masticated and left on site**, fire behavior indices actually increased** in comparison to unmasticated fuelbeds under the tested parameters.
- Low intensity spring burns can be used to reduce surface fuel loading in masticated fuels, but mortality to residual vegetation may be high.
- Vegetation response to treatments is highly variable, and closely correlated with pre-existing condition.
- **Most exotic plant species are adapted to disturbances and will increase post treatment.**
- Treatments that retain greater levels of overstory shading and litter/surface cover greatly mitigate risk of increasing exotic plant cover.[90]

Other researchers similarly found that mastication of chaparral increase herbaceous cover fivefold, and that herbaceous fuels "are finer and more flammable, and they increase surface fuel depths as well as fuel continuity."[91] While the authors did not examine whether herbaceous plants that grew in masticated areas were native or non-native, other studies have found such treatments to increase the relative abundance of non-native, invasive species.[92]

Overall, the Proposed Action (which involves masticating hundreds of acres of chaparral) is likely to increase non-native, invasive plant occurrence in the area, particularly *B. tectorum*. Opposite to the intended effect of decreasing wildfire risk, this could lead to more ignition-

---

[88] *Id.*

[89] Fusco, E.J., J.T. Finn, J.K. Balch, R.C. Nagy, and B.A. Bradley. 2019. Invasive grasses increase fire occurrence and frequency across US ecoregions. *PNAS*, 116(47):23594-23599. doi.org/10.1073/pnas.1908253116

[90] Bradley, T., J. Gibson, and W. Bunn. 2006. Fuels Management and Non-native Plant Species: an Evaluation of Fire and Fire Surrogate Treatments in a Chaparral Plant Community. Final Report to the Join Fire Science Program.

[91] Brennan, T.J. and J.E. Keeley. 2015. Effect of mastication and other mechanical treatments on fuel structure in chaparral. *International Journal of Wildland Fire*, 24(7):949-963. dx.doi.org/10.1071/WF14140

[92] Bradley, T., J. Gibson, and W. Bunn. 2006. Fuels Management and Non-native Plant Species: an Evaluation of Fire and Fire Surrogate Treatments in a Chaparral Plant Community. Final Report to the Join Fire Science Program.

prone landscapes within the Project Area and may increase the rate of fire spread. And this concern is not limited to chaparral-dominated areas. Keeley (2006)[93] states in regard to fuel reduction projects in forests:

> There is growing evidence that these fuel reduction projects alter ecosystem structure in ways that promote alien plant invasion…. Restoration includes restoring not only natural processes such as fire but also natural structure through mechanical thinning of forests, and these practices also may enhance alien invasion. Extensive forest restoration is currently under way in many western U.S. ponderosa pine forests. These treatments alone or in combination with burning of slash increase both the diversity and abundance of alien plant species…

Finally, the Project Description implies that the presence of dead or dying trees (especially associated with bark beetles) increases the risk of high-severity fire occurring in the Project Area:

> Surface fuel loading levels, **trees that are dead and dying due to insect and disease**, and natural forest succession make stand-replacing fire an ongoing risk to the landscape.[94]

However, this is not borne out in the scientific literature. Several studies have found that area burned or the risk of fire occurrence does not increase following bark beetle outbreaks that cause significant tree mortality in conifer forests.[95] Furthermore, several studies have found

[93] Keeley, J.E. 2006. Fire management impacts on invasive plants in the western United States. *Conservation Biology*, 20(2):375-384. doi: 10.1111/j.1523-1739.2006.00339.x

[94] U.S. Forest Service. 2020. Reyes Peak Forest Health and Fuels Reduction Project Description. pg. 15-16

[95] Hart, S.J., T. Schoennagel, T.T. Veblen, and T.B. Chapman. 2015. Area burned in the western United States is unaffected by recent mountain pine beetle outbreaks. PNAS, 112(14):4375-4380. doi: 10.1073/pnas.1424037112

Meigs, G.W., H.S.J. Zald, J.L. Campbell, W.S. Keeton, and R.E. Kennedy. 2016. Do insect outbreaks reduce the severity of subsequent forest fires? doi:10.1088/1748-9326/11/4/045008

that bark beetle outbreaks (and the presence of dead trees) do not increase subsequent fire severity,[96] and that they may, in fact, reduce it under some circumstances.[97]

Thus, not only has the agency overstated its ability to reduce wildfire risk through the Proposed Action or mischaracterized the risks associated with certain factors such as bark beetles and dead trees, certain activities being proposed may in fact increase various aspects of wildfire risk in the Project Area.

4. Incongruent and Illogical Stand Targets and Data

Another stated goal of the Project is to "re-create stand densities more like those of the pre-suppression era" and to "encourage a stand structure that emphasizes large-diameter trees."[98] There are several issues regarding Tables 6 and 8 in the Project Description, which relate to these goals of stand manipulation. Table 6 provides the historical (1930) and current (2018) averages of trees per acre ("TPA") for four different tree size classes: 4–12" DBH, 12–24" DBH, 24–36" DBH, and >36" DBH. The table also provides the historical and current ranges of TPA for these size classes. Table 8 similarly provides averages and ranges for TPA in these different size classes, but instead of comparing historical to current data, it compares pre- and anticipated post-treatment values.

First, the 2018 range for TPA in the >36" DBH size class in Table 6 does not match the pre-treatment (2018) range for TPA in the same size class. Table 6 states that there are 0–80 TPA in this size class while Table 8 states that there are 20–80 TPA in this size class. This incongruence is perpetuated in Table 8 as the same range of 20–80 TPA in the >36" DBH size is presented as the post-treatment (2021) range. It is unclear which range is correct, though logically the range of 20–80 TPA cannot be possible if the average TPA in that size class is 13 as presented in both Tables 6 and 8. This average would be less than the minimum value (20) of the range from which the average is calculated, which is a mathematical impossibility. A similar issue exists in Table 8, which states that there would be an average of 3 TPA in the smallest size class post-

---

[96] Kulakowski, D. and T.T. Veblen. 2007. Effect of Prior Disturbances on the Extent and Severity of Wildfire in Colorado Subalpine Forests. *Ecology*, 88(3):759-769.
Harvey, B.J., D.C. Donato, W.H. Romme, and M.G. Turner. 2013. Influence of recent bark beetle outbreak on fire severity and postfire tree regeneration in montane Douglas-fir forests. *Ecology*, 94(11):2475-2486.
Harvey, B.J., D.C. Donato, W.H. Romme, M.G. Turner. 2014. Fire severity and tree regeneration following bark beetle outbreaks : the role of outbreak stage and burning conditions. *Ecological Applications*, 24(7) :1608-1625.
Andrus, R.A., T.T. Veblen, B.J. Harvey, and S.J. Hart. 2016. Fire severity unaffected by spruce beetle outbreak in spruce-fir forests in southwestern Colorado. *Ecological Applications*, 26(3):700-711.

[97] Meigs, G.W., H.S.J. Zald, J.L. Campbell, W.S. Keeton, and R.E. Kennedy. 2016. Do insect outbreaks reduce the severity of subsequent forest fires? doi:10.1088/1748-9326/11/4/045008
Sieg, C.H., and R.R. Linn, F. Pimont, C.M. Hoffman, J.D. McMillan, J. Winterkamp, and L.S. Baggett. 2017. Fires following bark beetles: factors controlling severity and disturbance interactions in ponderosa pine. *Fire Ecology*, 13(3). doi: 10.4996/fireecology.130300123

[98] U.S. Forest Service. 2020. Reyes Peak Forest Health and Fuels Reduction Project Description. pg. 12

treatment, yet the range of TPA for that same size class post-treatment is presented as 5–15. Again, it is not possible for the average to be lower than the minimum value in the range from which the average is calculated. However, see below for more on why the post-treatment range for this size class may be incorrect.

Second, the range of total TPA presented for the historical (1930) data in Table 6 is 0–45. However, the historical range of TPA for the 4–12" DBH size class is also presented as 5–50 in that same table. The maximum value of the range of total TPA cannot be less than the maximum value of the range of TPA within a single size class.

Third, Table 8 presents the post-treatment range of TPA for the smallest size class as 5–15. However, the same table also presents the pre-treatment range of TPA for this size class as 0–100. The minimum value in the post-treatment range of TPA cannot be greater than the minimum value in the pre-treatment range for the same size class considering the Proposed Action.

Fourth, Table 8 presents the post-treatment range of total TPA as 20–140. Yet, the same table presents the pre-treatment range of total TPA as 0–180. This is, once again, impossible considering the proposed the action. Furthermore, the post-treatment range of total TPA presented in Table 8 has a minimum value that is greater than the minimum values of the post-treatment ranges of the two smallest size classes. This highlights perhaps a more important issue about how these data are presented in both tables. It is unclear what the ranges of total TPA presented for historical, current, and post-treatment stands in Tables 6 and 8 actually represent.

Any given current stand likely has a mixture of trees from different size classes. Importantly, for any given stand, TPA must be, at minimum, equal to the minimum nonzero value (or sum of minimum nonzero values if there are more than one) across all TPA ranges given for the four size classes. In other words, since the minimum values of the TPA range for the second and third size classes are both equal to 20, and since the minimum values for the first and fourth size classes is equal to 0, then no stand could have less than 40 TPA (20 each in the second and third size classes and 0 TPA for the first and fourth size classes). And if a given stand has a particular TPA for each size class (and the number of TPA for each size class cannot be outside of the range of TPA given for each size class), then the total TPA for that stand is the sum of all TPA values from all size classes.

For example, if a current stand that has 5 TPA in the smallest size class, 30 TPA in the next size class, 20 TPA in the next size class, and 0 TPA in the largest size class, then that stand would have a total TPA equal to 55. If another current stand has 30, 40, 25, and 0 TPA in the four size classes, respectively, then the total TPA for the stand would be equal to 95 (the sum of 30, 40, 25, and 0). The problem arises when one wants to present a range of total TPA. Considering these two example stands, the range of total TPA between them would be 55 – 95. However, the range of TPA values within each size class across stands would be 0 – 40. This confusingly implies that the maximum TPA across these two stands is 40 when in fact it is 95. This confusing presentation is exactly what occurs in Tables 6 and 8 for historical, current, and post-treatment

conditions, however. And even then, the total ranges (in the "Total/Range" column of each table) do not always reflect the values presented as the ranges for each size class (see above).

Another way to look at this is by considering the values presented in the ranges of TPA for each size class. The historical ranges presented in Table 6, for example, are 5 – 50, 20 – 45, 0 – 10, and 0 – 35 for the four size classes, respectively. Therefore, that means that no stand examined historically had fewer than 25 TPA (the minimum values in the TPA ranges for the first two size classes). While we do not have access to the historical data and do not know if any stands had only 25 TPA, we do know that this is theoretically the minimum. We also know that there must have been a stand that had 35 TPA in the largest size class. This stand must also have had a minimum of 5 TPA in the smallest size class and 20 TPA in the second size class. Therefore, such a stand would have a total of 60 TPA across all size classes. This would represent the lowest possible value for the maximum in a range of total TPA across stands. However, Table 6 states that the maximum TPA across stands was 45. Again, just knowing that the average TPA is presented as 65 would indicate that this range of total TPA could not be possible, as the average would be outside of the range of values from which the average was calculated. Clarifying this would still not fix the other inconsistencies described previously, such as the incongruencies between current TPA ranges given in Table 6 versus Table 8. And the presentation of these data highlight further issues described below.

Without reconciliation of the TPA and basal area targets, the public has no way of knowing whether the agency is planning on removing trees such that the basal area targets are met (in which case the TPA values across stands would likely be much lower than those presented in Table 8) or if the agency is planning on removing trees such that the TPA targets are met. In the latter case, the average basal area would be much greater than the arbitrary threshold of 120 ft^2 per acre above which the agency claims without evidence (while also incorrectly citing Oliver's 1995 study) that bark beetle-induced mortality is imminent, which would therefore defeat a primary purpose of the Project (to prevent bark beetle-induced mortality).

Another goal of the Proposed Action is to "encourage tree recruitment that contain a species mix more like pre-settlement composition, (with a higher representation of shade-intolerant species such as ponderosa pine that have declined during the period of fire suppression)." However, the agency provides no information to support that species composition in the Project Area is different now compared to historically. This is especially confusing since the agency is using historical data from the 1930s Vegetation Type Mapping Project ("VTM") to justify stand density targets in the Proposed Action. It is well-known that VTM plot data include species composition, yet the agency has not provided those data in any format within the Project Description, nor has the agency presented any current species composition data.

Furthermore, the agency's reliance on VTM data from 1930 to justify many aspects of the Project is concerning. Perhaps most importantly, there is only one forested VTM plot in or immediately adjacent to the Project Area. The sampling methods used for the VTM are described by University of California Davis researchers who transcribed these data and currently provide them online:

> …thus Tree Tally plots were 2 x 1 chains in size (132 x 66ft or roughly 40 x 20m). All trees with a DBH (diameter breast height) of at least 4" were tallied by species into DBH size classes.[99]

The location of plots were also generally recorded, and the researchers mentioned above have transcribed those locations into coordinates and provide maps of where sample plots were located. Based on this information, we know that only one 800 m^2 (0.2 acre) forested plot exists near the Project Area and that are none are within the Project Area itself (Plot ID E-3-1; Figure 8). The next nearest forested plot was 1.5 miles away. To estimate the TPA of a plot, one must simply multiple the number of trees in the plot by 5 (0.2 acres X 5 = 1 acre). Doing this, the plot immediately adjacent to the Project Area had 110 TPA, 80 of which were in the smallest size class (4”- 11” DBH). This is substantially different from the data presented in Table 6 in the Project Description, which states that there were 65 TPA, including 20 in the smallest size class, on average historically. In fact, the 2018 average TPA is 100 according to Table 6, indicating that there may actually be *less* trees in the Project Area currently compared to 1930.

It is therefore reasonable to assume that the agency must be using data from multiple VTM plots that are located well away from Pine Mountain. Again, the U.S. Forest Service has not stated which plots they have analyzed or why. In fact, it is unclear whether the agency even used the one plot that is actually within the immediate vicinity of the Project Area (and is thus most relevant) as Table 6 in the Project Description states that the historical TPA range was 0 – 45 TPA, which is much lower than 110 TPA (of course, see above for why this represents a larger issue of multiple mathematical impossibilities being presented in the Project Description, including this one). The apparent outcome of this decision is that historical TPA values the agency is presenting to the public are lower than they likely were in the Project Area in 1930, just based on what little data is available for the area through the VTM.

However, we are not suggesting that the single VTM plot in the Project Area is representative of the Project Area itself. This would assume that historical surveyors chose VTM plot locations in an unbiased manner such that the plot data truly represents a larger area. Multiple studies and researchers have highlighted concerns with this assumption. Bouldin (2009)[100] said this in regard to the intended use of VTM data to begin with:

> …the VTM plot data were collected as part of a statewide vegetation mapping project (VTM, http://vtm.berkeley.edu/, 2009), to help characterize mapped units for their community composition, not to estimate timber volume or biomass.

---

[99] http://vtm.berkeley.edu/#/about/description

[100] Bouldin, J. 2009. Comment on “Has fire suppression increased the amount of carbon stored in western U.S. forests?” by A.W. Fellows and M.L. Goulden. *Geophysical Research Letters*, 36(21):L21403. doi:10.1029/2009GL039391, 2009

Bouldin goes on to highlight concerns over the likelihood of VTM plot locations being biased:

> Both published data, and recent analyses of unpublished data strongly suggest that VTM plot are in fact highly biased. For example, Weeks et al. [1942] provide demographic summaries of 555 0.08 ha plots in old growth forests in the northern Sierra Nevada. Sampling at the same time as the VTM project, these plots were gridded 0.4 km apart along parallel lines 3.2 km apart, making them minimally biased with respect to vegetation conditions within the 645 km^2 area they comprise. Comparison of these data with VTM data from the same VTM data in the same area (the Bidwell Bar and northern half of the Downieville 30 minute quadrangles, n = 452), shows large differences in size class distributions. Densities of large (>60 cm dbh) VTM trees are 2.6 times those of Weeks et al.'s values…

When compared with much larger plots that overlapped VTM plot locations (16,000 m^2 compared to 800 m^2), Bouldin also found that there were significant differences, particularly in that mature trees were overestimated in the VTM plots by a factor of nearly three, concluding that "VTM data cannot be considered an unbiased estimate of forest structure."[101] Furthermore, Wright et al (2016)[102] note:

> …VTM data were collected for the specific purpose of supporting a vegetation mapping effort and were not a rigorously randomized sample of forest conditions of the time…

It is therefore likely that this single VTM plot that is closest to the forested portions of the Project Area does not represent the true historical conditions of the Project Area, but neither does a combination of other plots from entirely different areas. Mixed-conifer and yellow pine forests in the area are naturally variable across both small and large spatial scales. This complex heterogeneity cannot be easily captured, especially with one 0.2-acre plot in a forested area over 400 acres in size. Nor could the heterogeneity of one 400-acre area be captured by other biased plot locations in an entirely different area with different conditions and topography. This can be easily seen in a hypothetical scenario shown in Figure 9, which shows two 0.2-acre plots side by side in the Project Area. One plot has several live trees while the other has none. At this scale, spatial heterogeneity is high, which increases the likelihood that a single plot from the area is not representative of the Project Area in 1930.

All of these issues call into question the agency's methodology for calculating these important values as well as their use and reliance of certain historical data, and they demonstrate that the

---

[101] *Id.*

[102] Wright, D.H., C.B. Nguyen, and S. Anderson. 2016. Upward shifts in recruitment of high-elevation tree species in the northern Sierra Nevada, California. California Fish and Game, 102(1):17-31.

agency is either proposing to carry out the Project without a full understanding of what it is proposing or that the agency is being purposefully misleading.

It should also be noted that, as of the writing of this letter, the agency has not provided stand exam data collected in 2018, which is mentioned several times in the Project Description, despite our request to the agency to share these data. On June 4, 2020, we sent an email to the Project lead, Greg Thompson, requesting all tree stand data including but not limited to files containing trees per acre and basal area per acre for the Project Area. The request was forwarded to the Regional Office for unknown reasons. Our last communication with the Regional Office on June 24, 2020 indicated that the office was requesting this data from a contractor. On August 7, 2020, Andrew Madsen stated:

> **The tree stand data is still being collected and analyzed.** [Los Padres ForestWatch] was apprised of this by the Regional Office and Reyes Peak Project Leader Greg Thompson on multiple occasions. The Forest Service will continue to analyze the data as scoping comments are received. Once the analysis is completed, the data along with the Decision Memo will be released. If we decide to do an EA, the data will be provided once the EA and specialist reports are released for comment.

It should be noted that we were not "apprised of this…on multiple occasions." In a response to an email we submitted following up about our original request (because we had not received any additional response other than an acknowledgment that our request had been received), Mr. Madsen wrote simply that "the [Los Padres National Forest] is in the process of coordinating with the contractor to obtain any tree stand data." To date, we have not received the records nor any formal response. Regardless, Mr. Madsen's more recent comment is concerning because it presents a paradoxical situation. How can the agency develop a Proposed Action, the management activities of which entirely hinge on current tree stand exam data, and present summaries of those data in the Project Description if "the tree stand data is still being collected and analyzed?"

C. The Project has not been developed through a collaborative process.

A key provision of any project implemented under the purposes of the HFRA is that it be developed through a "collaborative process," defined as:

> Collaboration or Collaborative Process - "a structured manner in which a collection of people with diverse interests share knowledge, ideas, and resources while working together in an inclusive and cooperative manner toward a common purpose." (National Forest System Land Management Planning; 36 CFR § 219.19. p. 83.) Collaborative processes often include diverse entities working

> together to solve shared problems, develop projects, and/or achieve outcomes using open, transparency, and inclusive approaches and decision-making.[103]

The HFRA further states of this process (called "Public Collaboration"):

> In order to encourage meaningful public participation **during preparation** of authorized hazardous fuel reduction projects, the Secretary shall facilitate collaboration among State and local governments and Indian tribes, and participation of interested persons, during the preparation of each authorized fuel reduction project **in a manner consistent with the Implementation Plan**.[104]

Here, the Forest Service has not facilitated Public Collaboration in the preparation of the Project. Importantly, a Project Description was developed and a scoping notice was issued without, to our knowledge, the inclusion of any entity other than the Forest Service itself. The Project appears to have been in development since at least October 1, 2019—approximately eight months before the scoping notice was issued—when a memo including mention of the Project was circulated to "[a]ll Los Padres Employees" by the forest supervisor. The following is included in a section titled "Increasing the Pace and Scale of Ecological Restoration through our Timber Fuels Program":

- Pine Mtn. Forest Health project (MPRD)
    - Complete environmental analysis and decision by 09/30/2020

However, it is possible that the Project has been in development for much longer than that. The Biological Evaluation for the Cuddy Valley Forest Health/Fuels Reduction Project dated August 9, 2018 includes a map in Appendix B titled "Actions Considered for Cumulative Effects Analysis." This map shows the Project Area highlighted and categorized as a future project (Figure 10). Thus, the Project has been in some form of development for up to two years. During that time prior to the scoping notice being issued, none of the undersigned organizations have been invited to collaborate in development of the Project. And again, to our knowledge, no other organization or entity other than the Forest Service has been invited to participate either.

The undersigned organizations have made known their interests in large vegetation removal projects (among others) in the Los Padres National Forest. Furthermore, all of the undersigned organizations have been directly involved in the decision-making process for several past projects developed by the Los Padres National Forest. If the agency did indeed collaborate with other non-federal entities prior to issuing the scoping notice, the fact that our organizations—which again have a long-established history of participating in projects undergoing

---

[103] Collaborative Forest Landscape Restoration Program Glossary. U.S. Forest Service. https://www.fs.fed.us/restoration/CFLRP/glossary.shtml

[104] 16 U.S. Code § 6514(f) (emphasis added)

environmental review and other issues relating to the Los Padres National Forest—then the development process has not been inclusive as required by both CE 603 and CE 605.

Importantly, as the development of the Project started many months or years before a scoping notice was issued, the agency may not be able to now fulfill the collaborative process requirements of CE 603 or CE 605. Key aspects of the Project, including specific treatments, were apparently developed by the agency alone rather than collaboratively with other non-federal entities. In practice, for a project to be developed in a truly collaborative way, then "multiple interested persons representing diverse interests"[105] must be included from the beginning. These persons must help identify the goals of a project in response to some identified purpose and need in addition to helping develop the Proposed Action. Can a project be collaboratively developed if the agency, by itself, identifies the purpose and need, creates goals, and develops a proposed action? If after this point the agency invites others to collaborate, the course or trajectory of the project is still already set with a particular end point in mind. If after scoping the agency decides to make changes to the Proposed Action, then how has the process been any different from that used for projects developed under different CEs that do not have a requirement for collaborative project development but do have a basic requirement to conduct scoping? In fact, the HFRA differentiates between scoping and the collaborative process:

> …is proposed during scoping **or** the collaborative process under subsection (f)…[106]

This would indicate that the two are indeed separate. Thus, the collaborative process can and must begin before scoping. Furthermore, *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Strategy Implementation Plan* (2006)—which any project's collaborative development process must adhere to[107]—states:

Successful collaboration may include some or all of the following features:

- Include Diverse and Balanced Stakeholder Representation. Potential stakeholders include local property owners, local governments, tribal representatives, industry groups, conservation groups, academics, scientists, and the interested public. Collaborative organizers should make a reasonable effort to include balanced representation from relevant interests in the collaborative process.
- Establish Clear Expectations and Goals. The collaborative process itself should be open, accessible, and tailored, as much as possible, to participants' needs. Meetings should be civil and respect the ideas of all

[105] 16 U.S.C. 6591b and 16 U.S.C. 6591d
[106] 16 U.S. Code § 6514(c)(1)(C)(i)
[107] 16 U.S. Code § 6514(f)

participants. Participants should agree on how they are going to collaborate and develop clearly articulated and achievable goals for action. Commitments made during collaboration should be honored.

- Collaborate Early and Often. Collaboration is enhanced when participants are **involved at all stages of project planning**. This includes the **identification of issues and concerns, potential project areas**, the development of alternatives, **project design**, and where applicable, implementation and post-treatment monitoring.
- Strive for Maximum Transparency in the Decision-Making Process. The criteria that will be used by decision-makers to **select a final project** or alternative should be made clear to the participants and the decision making process that will be used to apply the criteria should also be transparent and understood by all. There should be flexibility in the decision-making process to allow for multiple options to be considered.
- Encourage Stakeholders to Function as Representatives. Participants in collaboration should serve as a liaison between the collaborative group and the interests they represent and, when appropriate, advocate within their constituency for the agreed to plan, project, or activity. Communication between the entities should be enhanced as a result of the collaborative effort.
- Foster Long-Term Participation. Collaboration will yield longer-term benefits if participants maintain regular communication and active participation in the collaborative process and are committed to staying engaged through completion of the plan, project, or activity. New stakeholders should be added when appropriate.
- Recognize Time Frames and Resources. Participants in collaboration should mutually agree on ways to accomplish their objectives within reasonable time frames and in consideration of resource limitations.
- Enhanced Decision-Making. Collaboration should be conducted in a way that **complements and informs formal decision-making**.

Several key phrases in the above text indicate that collaboration can and should happen early on, well before a project is even offered to the public for comment. Consider that the above text makes clear that collaborators may be involved before a final project is even selected or before potential project areas are even identified.

This matter has been addressed in the courts to some extent as well. In a 2018 case in the U.S. District Court for the District of Oregon, the judge's opinion stated in regard to the collaborative process that had been employed as it related to the project being litigated:

> Multiple parties were involved at each stage of Project development. Initially, in November 2015, the Forest Service met with the above-listed parties to "**discuss possible** [*42] **projects** in Wallowa County to address forest health issues," and **agreed "that highest priority location** for action was the Lostine Corridor."[108]

This again indicates that Public Collaboration should begin before a location or potential project is selected, which did not occur prior to the scoping notice for the Project (which included a location and specific proposed action).

Moreover, the agency has also not invited persons representing the undersigned organizations to collaborate on the Project after the scoping notice was issued. And we are unaware what other entities may have been invited to collaborate after the scoping notice was issued. In fact, on June 16, 2020 we submitted an email to the Project Lead requesting a "a list of which external organizations, individuals, and agencies" the U.S. Forest Service has collaborated with on the Project. On June 23, 2020, the agency in response to our request provided us with the standard scoping list for the Project. We responded on June 24, 2020 informing the agency that it had not provided us with a list of the entities that it has collaborated with on the Project, but rather just a list of individuals to which the scoping notice was presumably sent. As of the writing of this letter, we have received no response. Thus, it appears that the agency has so far conducted a standard scoping process without any meaningful collaborative development component as required by the CE 603 and CE 605 statutes and HFRA.

D. The Project's location is outside of the area allowed for the CE.

It is clear that the Project Area is not in a WUI as described in greater detail in Section 4 of this letter. Moreover, the agency itself acknowledges this in the Project Description:

> The project area is **close to** the wildland-urban interface…[109]

And to further iterate that the agency knows the Project Area is not in a WUI, the 2015 Strategic Fuel Break Assessment for the southern districts of the Los Padres National Forest also identifies a potential fuel break along Pine Mountain Ridge (approximately the same location as the Project Area) as not occurring in a WUI.[110]

As the Project Area is not in a WUI, then according to the CE 603 and CE 605 statutes, it must be within vegetation categorized as Condition Classes 2 or 3 and in Fire Regime Groups I, II, or III. It should be noted that the agency has only provided a map depicting Vegetation Condition Class distribution in the Project Area (Figure 5 in the Project Description). The agency did not provide a map of Fire Regime Group distribution in the

---

[108] 2018 U.S. Dist. LEXIS 140858 *

[109] U.S. Forest Service. 2020. Reyes Peak Forest Health and Fuels Reduction Project Description.

[110] U.S. Forest Service. 2015. Strategic Fuel Break Assessment, Santa Lucia, Mt. Pinos, Ojai & Santa Barbara Ranger Districts, Los Padres National Forest, Region 5.

Project Area. This makes it difficult to understand which portions of the Project Area do not meet the requirements of the CE statutes referenced at the beginning of this section. Regardless, it is clear that these requirements are not satisfied based on the information provided in the Project Description.

First, according to Table 4 in the Project Description, approximately 61 acres in the western portion of the Project Area are in Vegetation Condition Class 1. Therefore, the Proposed Action would be inapplicable under either CE 603 or CE 605 in this portion of the Project Area.

Second, as noted in Section 1.B.3 in this letter, just over 300 acres of the Project Area is miscategorized as Fire Regime Group I when they should, in fact, be categorized as Fire Regime Group IV based on the best available science. As projects being approved under CE 603 or CE 605 must be categorized by Fire Regime Groups I-III, the Project would therefore be unable to move forward under these CEs.

E. The Project is inconsistent with the Land Management Plan.

A Project being inconsistent with the Land Management Plan is a concerning issue that goes beyond just the provisions of HFRA or of NEPA. Such an issue strikes at the core of the National Forest Management Act as well. With that in mind, the Project's inconsistencies with the Land Management Plan for the Los Padres National Forest are detailed in a separate section in this letter (Section 2), though all of the problems discussed therein also apply to the statutory requirements for CE 603 and CE 605.

F. The Project does not qualify for a CE because of the presence of several "extraordinary circumstances."

In addition to other requirements mentioned at the beginning of this section, the Forest Service may only carry out the Project under a CE if there are no "extraordinary circumstances." Specifically, the FSH states that "[a] proposed action may be categorically excluded from further analysis and documentation in an EIS or EA only if there are no extraordinary circumstances related to the proposed action."[111] There are multiple extraordinary circumstances related to the Proposed Action, detailed below. The presence of— and the Proposed Action's significant impact to—these resource conditions precludes the use of a CE for the Project and instead requires the Forest Service to prepare an EA or EIS.

The regulations set forth several criteria for evaluating extraordinary circumstances, including listed or sensitive species, critical habitat, wetlands, municipal watersheds, inventoried roadless areas, and Native American cultural sites.[112] Additionally the FSH states:

[111] FSH 1909.15.31.1; see also 40 CFR § 1508.4 (requiring agencies to "provide for extraordinary circumstances in which a normally excluded action may have a significant environmental effect.")
[112] 36 CFR § 220.6(b)

> In considering extraordinary circumstances, the responsible official should determine whether or not any of the listed resources are present, and if so, the degree of the potential effects on the listed resources. **If the degree of potential effect raises uncertainty over its significance, then an extraordinary circumstance exists**, precluding use of a categorical exclusion.[113]

The Project involves several extraordinary circumstances, including potential impacts to federally listed endangered and sensitive species, an inventoried roadless area, and important Native American cultural sites. For the reasons outlined below, the degree of potential effects to these extraordinary circumstances requires preparation of an EA or EIS.

1. Impacts to Species Protected Under the Endangered Species Act of 1973

Approximately 192 acres of the Project Area is designated critical habitat for the endangered California condor (*Gymnogyps californianus*) as shown in Figure 11. While the Project Description includes S28 from the LMP (which focuses on avoidance of disturbance to active nests and roost sites), it does not adequately address whether the Proposed Action would cause an adverse modification of the species' critical habitat.

Despite the relatively short periods of time that California condors have been studied (both before and after captive breeding and reintroduction efforts), some important facts about their required and preferred habitat are known. The Forest Service's species account for the California condor highlights the importance of roosting and perching habitat:

> Condors often return to traditional sites for perching and resting. Traditional roost sites include cliffs and **large trees and snags (roost trees are often conifer snags 40-70 feet tall)**, often near feeding and nesting areas….
>
> Recovery objectives on National Forest System lands (**primarily the Los Padres National Forest**) include…(3) provide for maintenance and protection of nesting, roosting, and foraging **habitat** on National Forest System Lands….[114]

The Proposed Action allows for the removal of live trees up to 24" DBH and up to 64" DBH under loose stipulations, including those greater than 40-70 feet tall. Snags would be removed if deemed a hazard. Dead or dying "hazard" trees and large trees with relatively small diameters (less than 30 inches DBH) are precisely the types of trees on which condors depend for roosting and perching. Specifically,

> Dead conifers are preferred to living trees. Dead trees have no foliage to obstruct flight or visibility or to catch the wind and cause the branches to sway.

[113] FSH 1909.15.31.2 (emphasis added)
[114] U.S. Forest Service. 2005. Species account for the California condor. (emphasis added)

> The loss of some branches further decreases the obstruction of flight. Dead branches are stiff so that they bend and sway but little…[115]

According to Koford, "[r]oosting trees are generally from 40 to 70 feet tall," and trees of this size may have diameters much smaller than 30 inches. Even smaller trees may be used for roosting and perching, as immature condors may roost in "unsuitable" areas such as smaller trees.[116]

The Proposed Action will involve thinning to reduce canopy cover and basal area per acre. Opening up the canopy in or immediately adjacent to suitable condor roosting trees will make the area more susceptible to wind, which Koford identifies as a prime determinant of roosting locations. Specifically, Koford states, "Wind influences the use of a roosting place…. It appeared that the strong wind made the usual tree roosts untenable" (Koford 1953). In summarizing, Koford closes by stating:

> For perching, condors require steady places with good footing which are easy to reach or to leave by air and where there is little disturbance by man or enemies. Roosts, in addition, must be high above the ground yet protected from strong winds, **utterly free from disturbance**, and suitably located with respect to food, water, nests, and perhaps to other condors. Any adequate program for conserving this species must provide for the preservation of a sufficient number of perching and roosting places as well as for the protection of nest sites.[117]

In addition, the USFWS states that roosting sites are susceptible to disturbance threats "and their preservation requires isolation from human intrusion" (USFWS 1996). Condor roosting sites are particularly susceptible to human disturbance, and even human presence. Specifically,

> The amount of disturbance which a condor will tolerate before flushing decreases rapidly late in the day. For example, I stationed myself below a roost cliff at 4:10 p.m. when 18 condors were there. Six soon departed. The other remained until 5:30 p.m., but by 5:55 p.m. only seven remained an only two condors roosted there. On previous days more than a dozen roosted there. Many other times I had a similar experience. Mild disturbances which will not prevent condors from perching or even from drinking may prevent them from roosting. **The disturbance threshold for roosting seems to be lower than that for any other daily activity of condors…. One man, by disturbing the birds at critical places late in the day, can prevent roosting over an area of several square miles.**[118]

---

[115] Koford, C.B. 1953. *The California Condor*. Dover Publications, Inc. New York.
[116] *Id.*
[117] *Id.*
[118] *Id*.

The Forest Service's species account for the California condor also identifies the primary potential threats to California condors:

> Potential threats to California condors from resource management activities on National Forest System lands include **modification or loss of habitat or habitat components (primarily large trees)** and behavioral disturbance to nesting condors caused by vegetation treatment activities.[119]

Given that much of the Project Area is designated critical habitat, the possibility of adverse modification to this habitat is significant. The agency therefore must prepare an EA or EIS to better determine what the Proposed Action's impacts to California condor critical habitat may be and how they will be mitigated.

2. Impacts to Sensitive Animal Species

Another species the Forest Service must consider in its evaluation of extraordinary circumstances is the California spotted owl (*Strix occidentalis occidentalis*; "CSO"), which is a listed Sensitive Species (and Management Indicator Species) for the Los Padres National Forest. The Project Area contains suitable habitat for the CSO.

Current research indicates that fuel treatments may negatively impact CSOs. A study in 2014 examining the effects of establishing a network of fuel breaks on various species including the California spotted owl found, in response to fuel treatments:

> …the number of California spotted owl territories declined. The effects on owls could have been mitigated by increasing the spatial heterogeneity of fuel treatments....[120]

While the Project Area has not been impacted by recent fires, the agency's aim to prevent particular fire effects in the future could negatively impact CSO habitat. Research suggests that recently-burned areas can provide suitable habitat for California spotted owls. For example, a 2015 study found that:

> Based on this and other studies of Spotted Owls, fire, and logging, we suggest land managers consider burned forest within and surrounding [protected activity centers ("PACs")] as potentially suitable California Spotted Owl foraging habitat when planning and implementing management activities….[121]

---

[119] U.S. Forest Service. 2005. Species account for the California condor. (emphasis added)

[120] Stephens, S.L., S.W. Bigelow, R.D. Burnett, B.M. Collins, C.V. Gallagher, et al. 2014. California spotted owl, songbird, and small mammal responses to landscape fuel treatments. *BioScience*, 64(10):893-906.

[121] Lee, D.E. and M.L. Bond. 2015. Occupancy of California spotted owl sites following a large fire in the Sierra Nevada, California. *The Condor*, 117(2):228-236.

This in combination with the results of other studies[122] indicate that California spotted owls may be able to thrive in post-fire landscapes and that fuel treatment may have a negative impact on spotted owl communities.

The Forest Service has also identified vegetation removal and human disturbance as two of the primary factors threatening the viability of spotted owls according to its species account, likely due to its complex habitat needs. The agency's species account for the CSO highlights the species' need for complex habitat in Southern California mountains:

> California spotted owl habitats are consistently characterized by greater structural complexity compared to available forest habitat….
>
> - Canopy closure of at least 60 and commonly greater than 70 percent.
> - A mature overstory with average **[diameter at breast height ("DBH")] exceeding 24 inches**.
> - A densely stocked stand with basal areas averaging in excess of 190 ft^2, **with none less than 160 ft^2**.
> - Much of the basal area in the overstory and mid-story, with stands having an average of 10 trees exceeding 26 inches DBH and 29 trees of 16 to 26 inches DBH per acre.
> - Multi-layered stands, often having hardwood understories.
> - Decadent stands containing large diameter snags, trees with broken tops, diseased trees in which cavities frequently form, and large diameter fallen trees.[123]

The Forest Service completed the *Conservation Strategy for the California Spotted Owl (*Strix occidentalis occidentalis*) on the National Forests of Southern California* ("CSO Conservation Strategy") in 2004. The CSO Conservation Strategy presents the following guidelines for fuels management activities outside of the WUI Defense or Threat Zones on national forest land characterized by pine and mixed conifer forest:

> - Where treatments have to occur in PACs and [home range core areas ("HRCs")], retain existing canopy closure in the PAC and 40 to 50 percent

[122] Bond, M.L., D.E. Lee, R.B. Siegel, and J.P. Ward Jr. 2009. Habitat use and selection by California spotted owls in a postfire landscape. *The Journal of Wildlife Management*, 73(7):1116-1124.
Lee, D.E. and M.L. Bond. 2015. Occupancy of California spotted owl sites following a large fire in the Sierra Nevada, California. *The Condor*, 117(2):228-236.
Hanson, C.T., M.L. Bond, and D.E. Lee. 2018. Effects of post-fire logging on California spotted owl occupancy. *Nature Conservation*, 24:93-105. doi: 10.3897/natureconservation.24.20538

[123] Forest Service. 2005. Species Account—California Spotted Owl. (emphasis added)

canopy closure in the HRC. In PACs, use understory treatments to remove ladder fuels rather than altering canopy closure….

- Retain the largest trees within PACs and [home range cores ("HRCs")], **including all live trees greater than 24 inches DBH**, unless they are at unnaturally high densities. Exceptions allowed for operability.
- Within PACs and HRCs, retain 4 to 8 of the largest snags available per acre, or at least 20 ft^2 basal area per acre of snags greater than 15 inches DBH and 20 feet tall.
- Within PACs and HRCs, retain at least 9 down logs per acre of the largest logs available, ideally at least 12 inches in diameter and at least 20 feet long (at least 180 lineal feet of logs).
- During mechanical fuel treatment activities, retain all woodrat nests in spotted owl habitat; avoid disturbing/destroying them. Exceptions allowed for operability.[124]

According to the California Natural Diversity Database ("CNDDB"), CSO detections have been reported nearby and the Forest Service has designated numerous protected PACs near the Project Area. Approximately 12% of the Project Area is within estimated CSO HRCs according to a GIS analysis. We used the U.S. Forest Service's PAC database and found nine PACs just north of the Project Area. We calculated a simple geographic centroid for each PAC and created a circular buffer with a 1.5-mile radius around it as suggested by the CSO Conservation Strategy. Two of these buffer zones overlap approximately 92 acres of the eastern portion of the Project Area based on this analysis (Figure 12). Additionally, the California Department of Fish and Wildlife's California Wildlife Habitat Relationships ("CWHR") Predicted Habitat Suitability for the species (known as the Spotted Owl Predicted Habitat – CWHR B270 dataset) shows 65 acres of habitat with a suitability description of "High" or "Medium" in the Project Area (Figure 13). The Project would reduce the old-growth stands of Jeffrey pine (and possibly some ponderosa pine, though it is unclear how represented this species is in the area), sugar pine, incense-cedar, bigcone Douglas-fir, and white fir to between 60 and 100 ft^2 basal area per acre—well below the basal area per acre needed by CSO as described in the species account mentioned above (i.e. > 160 ft^2 basal area per acre). Additionally, the Project would allow trees greater than 24 inches DBH to be removed under loose stipulations.

The Project does not align with the CSO Conservation Strategy for several reasons. Trees greater than 24 inches DBH within HRCs could be removed. Additionally, the Project Description indicates that 10 to 15 hard snags will be retained per five acres or about two to three per acre

[124] Forest Service. 2004. Conservation Strategy for the California Spotted Owl (*Strix occidentalis occidentalis*) on the National Forests of Southern California.

on average—significantly less than the recommended 4 to 8 per acre. While the Proposed Action includes a LMP standard about the retention of downed logs, the same standard states that there is an "[e]xception allowed in Wildland/Urban Interface Defense Zones, fuelbreaks, and where they pose a safety hazard."[125] This indicates that the Project may remove all dead and downed material from forested treatment areas since it would fall under the "exception" to the standard as it is labeled as a fuel break. Finally, the Proposed Action does not include any measures to retain woodrat nests in the Project Area.

The presence of these guidelines in the CSO Conservation Strategy indicates that the Forest Service has determined or is aware that impacts to CSOs could occur if such guidelines are not followed. Therefore, the Project may have significant impacts on CSOs as the Proposed Action does not follow these guidelines. Again, due to this likelihood of significant impacts to CSOs, the Forest Service must prepare an EA to determine the degree to which the Proposed Action may affect this Sensitive species.

The Project may also impact the northern goshawk (*Accipiter gentilis*). The species' year-round range includes Pine Mountain and the surrounding area according to the CDFW's species account.[126] Furthermore, the CDFW's CWHR Predicted Habitat Suitability for the species (known as the Northern Goshawk Predicted Habitat – CWHR B117 dataset) shows that there is a significant amount of suitable habitat within the Project Area. Specifically, there are 104 acres delineated as "High" predicted habitat suitability, which is the highest designation within the dataset, and another 121 acres delineated as "Medium" predicted habitat suitability within the Project Area (Figure 14). Thus, overall there are 225 acres of predicted suitable habitat within the Project Area (or about 30%). This Forest Service Sensitive Species and Species of Special Concern (CDFW) likely occurs within the Project Area.

The Proposed Action may significantly impact the northern goshawk habitat in the Project Area. According to the Forest Service's species account prepared with the Land Management Plan of 2005:

> When foraging, northern goshawks utilize a wider range of forest types and conditions, but most populations still exhibit a preference for high canopy closure and a high density of larger trees…. 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 (Reynolds and others 1992).[127]

---

[125] Forest Service. 2005b. Land Management Plan Part 3: Design Criteria for the Southern California National Forests. R5-MB-080. See S-14

[126] Keane, J.J. 2008. Northern goshawk (*Accipiter gentilis*). Shuford, W.D. and T. Gardali, eds. In "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*, 1:156-162.

[127] U.S. Forest Service. 2005. Species Account—Northern goshawk.

However, the Proposed Action would significantly lower tree density, including that of larger trees (especially in the 20 – 24" DBH range) as well as large snags and downed logs. The CDFW species account similarly states:

> Goshawks forage in mature and old-growth forests that have relatively dense canopies…[128]

Moreover, the CDFW account states:

> Uncertainty exists regarding the effects of proposed timber harvest and fuels management strategies on goshawk habitat quality at the home range and landscape scales.[129]

This uncertainty as to the Project's degree of effect on California spotted owls and habitat triggers the "extraordinary circumstance" threshold, requiring the U.S. Forest Service to prepare an EA or EIS that analyzes the Project's potential impacts to the species based on pre-decisional focused protocol surveys in the area.

3. Impacts to Sensitive Plant Species

The Project Description does not include a list of Sensitive plant species that occur in the project area, nor did the Forest Service provide us with a list during the comment period despite our repeated requests. To the best of our knowledge, at least five Sensitive plant species occur within or near the Project Area according to records in the CNDDB and the California Consortium of Herbaria. These include:

1. *Acanthoscyphus parishii* var. abramsii (Abrams' spineflower)
2. *Monardella linoides* ssp. *oblonga* (Tehachapi or flax-like monardella)
3. *Sidotheca caryophylloides* (chickweed oxytheca)
4. *Layia heterotricha* (pale yellow layia)
5. *Delphinium parryi* ssp. *purpureum* (Mt. Pinos larkspur)

Observation locations for these species near the Project Area are shown in Figure 15. According to the agency's species account[130] for Abrams' spineflower—a small species that occurs in chaparral—states:

> This taxon has the potential to be impacted by chipping or placement of other organic material following fuel treatments…

As the Proposed Action would involve masticating chaparral, and potentially Abrams' spineflower habitat, there may well be impacts to this species in the Project Area.

---

[128] *Id.* pg. 159
[129] *Id.* pg. 160
[130] U.S. Forest Service. 2012. *Abrams' oxytheca*. Species Account.

The agency's species account[131] for Tehachapi monardella states that the species occurrences on national forest land are:

> …threatened by **road and trail construction and maintenance**, vandalism, dumping, littering, foot traffic and **trampling**, non-off-road vehicle recreational activities, and erosion and runoff…

It is likely that the use of heavy equipment as included in the Proposed Action can negatively impact any individuals that may occur in the Project Area.

Chickweed oxytheca may be the species most vulnerable to the Proposed Action. The agency's species account[132] states:

> The primary threat to this species habitat is **fuels and vegetation management** that will occur across most of this species habitat during the Plan period.

Not only is this species threatened specifically by the type of activities included in the Proposed Action, it is also has a large population within the Project Area (Figure 15). Impacts to this species during implementation of the Project are highly likely.

Pale yellow layia may also occur in the Project Area as several occurrences have been recorded nearby. One of the threats to the species on national forest land is the invasion of non-native annual plants according to Stephenson and Calcarone (1999).[133] As described in Section 1.B.3 in this letter, the Proposed Action is likely to result in the spread of non-native annual grasses in the Project Area, which could significantly impact any pale yellow layia that may occur there.

Similarly, Mt. Pinos larkspur may occur in the Project Area due to the proximity of recorded occurrences. However, less is known about this species and how it may be impacted by activities such as those included in the Proposed Action. Regardless, it first must be determined whether any individuals currently occur in the Project Area in order to elucidate what impacts the Project may have on the species.

Additional Sensitive species may occur in the Project Area, but few focused surveys have been conducted there. The Project Description does not disclose potential impacts to Sensitive plant species, nor does it discuss whether focused surveys will be conducted prior to issuance of the decision. While surveys should be conducted before implementation regardless, the agency needs to conduct surveys before making a decision to determine whether the Proposed Action may impact the species in the Project Area in ways that cannot be mitigated. For example, what

---

[131] U.S. Forest Service. 2012. *Tehachapi monardella*. Species Account. (emphasis added)

[132] U.S. Forest Service. 2012. *Chickweed oxytheca*. Species Account. (emphasis added)

[133] Stephenson, J.R. and G.M. Calcarone. 1999. Southern California mountains and foothills assessment: habitat and species conservation issues. General Technical Report GTR-PSW-175. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture.

effect might long-term changes to forest structure have on individual species? What impacts would an increase in invasive plant abundance (as detailed in the previous section of this letter) have on individual species? These questions are not answered, nor does it appear that the agency is even asking them.

4. Impacts to Cultural Sites

Several archaeological and cultural sites exist along Pine Mountain Ridge and in the Project Area specifically. Furthermore, the U.S. Forest Service's Strategic Fuel Break Assessment for the four ranger districts in the southern Los Padres National Forest clearly indicates that cultural sites are present in the area. On page 235 in that document under a section titled "Potential Management Concerns," the agency states that cultural values (sites) are present within 300 feet and 1000 feet of a hypothetical fuel break stretching along the ridgeline from Hwy 33 to Reyes Peak.[134] It is therefore likely that cultural sites exist within the Project Area and could be negatively impacted by the Proposed Action.

It is also essential to note that "cultural sites" are not synonymous with "archaeological sites." Archeological sites are primarily sites with intact strata that are of value for archaeological research and data gathering. Cultural sites, on the other hand, include former village sites, work sites, sacred sites, petroglyph and arborglyph sites, and burials of human remains and associated cultural materials. These sites are of great cultural importance to Chumash Peoples and must be protected regardless of the level of previous disturbance or environmental degradation of the area. Additionally, cultural sites include traditional gathering sites for ceremonial plants, medicine plants, food plants, basketry plants, and other material culture plants. It is vital to recognize that traditional gathering sites are irreplaceable and not interchangeable with other locations that have the same plant species. Traditional gathering sites have unique features that make the plants grow in a manner appropriate for their traditional uses and have often been intentionally and carefully tended by Chumash families for generations.

Unlike archaeological sites, which can be identified from previous archaeological documentation, cultural sites can only be identified through consultation with Chumash tribes, bands, clans, and family groups. This information is generally closely held by culture bearers and under normal circumstances is not shared with the public, academia, or agencies. Exceptions, under confidential conditions, can be made in order to protect these natural cultural resources. It also must be noted that there are several Chumash tribes, bands, clans, and family groups associated with the Project Area. These tribal entities are not interchangeable and culture bearers in each tribal group hold unique traditional knowledge relevant to cultural sites in the project area. A list of groups whose traditional homelands

[134] U.S. Forest Service. 2015. Strategic Fuel Break Assessment, Santa Lucia, Mt. Pinos, Ojai & Santa Barbara Ranger Districts, Los Padres National Forest, Region 5.

include the Project Area can be obtained from the Native American Heritage Commission and additional Chumash community outreach.

5. Impacts to Sespe-Frazier IRA

According to the Project Description, 311 acres within the Project Area (42%) are part of the Sespe-Frazier IRA (Figure 16). This includes much of the eastern portion of the Project Area near Reyes Peak as well as areas along the northern edge of the Project Area.

The proposed mastication of chaparral habitat and the removal of relatively large trees across the Project Area would negatively impact the roadless character of the IRA. The Proposed Action would allow for heavy equipment to be used to conduct this work, which could result in skid trails and other ground disturbing activities that would alter the roadless character of this portion of the Sespe-Frazier IRA.

Please note that roadless character is not limited to the construction, maintenance, or use of roads; rather, "roadless character" as defined in the 2001 Roadless Area Conservation Rule ("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.[135]

The removal of most chaparral and a substantial number of trees across the stated 311 acres of the Sespe-Frazier IRA within the Project Area would substantially alter its roadless character due to the likely impacts to the undisturbed soil, diversity of plant and animal communities, habitat for the endangered California condor, California spotted owl, northern goshawk, and Sensitive plant species, natural appearing landscapes with high scenic quality (the entire Project Area is designated as having "high" scenic integrity by the Land Management Plan Part 2: Los Padres National Forest Strategy issued in 2005), and traditional cultural properties.

In addition, roadless areas possess unique characteristics that should automatically trigger the preparation of an EIS. Logging the IRA here produces "environmentally significant" impacts on

[135] 36 CFR § 294.11

the area's unique attributes and its potential for wilderness designation.[136] Indeed, as of the writing of this letter, the U.S. House of Representatives has already approved two pieces of legislation that would designate approximately 34% of Project Area (which roughly coincides with the Sespe-Frazier IRA in the area) as additions to the Sespe Wilderness.[137] Overlap between the proposed wilderness additions and the Project Area can be seen in Figure 17). Moreover, the CEQ regulations themselves specify that "[p]roposals that would substantially alter the undeveloped character of an inventoried roadless area" normally require the preparation of an EIS.[138]

G. The Project does not qualify for a CE because it would substantially alter an Inventoried Roadless Area

The Project also includes actions that would normally require the preparation of an EIS regardless of the above statutes. Specifically, the U.S. Forest Service's NEPA Handbook identifies several classes of actions that normally require preparation of an EIS "because they normally result in significant effects." Two classes of projects are identified that meet these criteria: aerial application of pesticides (Class 1) and projects that would "substantially alter the undeveloped character of an inventoried roadless area ["IRA"] or potential wilderness area" (Class 2). The Proposed Action would substantially alter the undeveloped character of an IRA as it includes the harvest of timber and mastication of chaparral across approximately 311 acres of the Sespe-Frazier IRA, according to the Project Description. Such action would substantially alter the undeveloped character of the Sespe-Frazier IRA and therefore requires the preparation of an EIS. This is further outlined in Section 3 of this letter, which also addresses the Project's inconsistency with the 2001 Roadless Rule.

Due to these disqualifications for use of CEs 603 and 605, the U.S. Forest Service must re-examine the Proposed Action and prepare an EA or EIS to determine potential significant impacts of the Project as well as to develop alternatives to the Proposed Action. It should be noted, however, that the agency appears to have already pre-determined that these CEs will be used a Decision Memo will be signed. In a July 15, 2020 response to a June 24, 2020 request for various information about the Project, Mr. Thompson stated (emphasis added):

> - Survey data is still being collected and analyzed. The survey data and reports will be made available after the respective reports are completed and **the Decision Memo is signed**….

[136] *Lands Council v. Martin*, 529 F.3d 1219, 1230 (9th Cir. 2008), citing *Smith v. U.S. Forest Serv*., 33 F.3d 1072 (9th Cir. 1994)
[137] H.R. 2546, "Protecting America's Wilderness Act"; H.R. 2500, "National Defense Authorization Act for Fiscal Year 2020"
[138] 36 C.F.R. § 220.5(a)(2)

- Formal or informal consultation has not yet occurred for the Reyes Peak Project. The information will be made available **once consultation is completed and the Decision Memo is signed**.

One of the primary purposes of the scoping process is to determine whether a proposed action can be categorically excluded from analysis in an EA or EIS.[139] Yet the agency seems to have predetermined that the Project can and will be categorically excluded despite scoping being incomplete (i.e. the above referenced email was sent nearly one month before the scoping comment period closed).

It should also be noted that while we have described in detail above why the Project does not qualify for CE 603 or CE 605, it also does not qualify for other CEs for some of the same reasons. Particularly, the presence of extraordinary circumstances and the potential impacts to the Sespe-Frazier IRA make the Proposed Action inconsistent with other CEs such as the one described in 36 CFR 220.6(e)(6) (timber stand or wildlife habitat improvement) ("CE 6"). While the agency did not indicate that it is considering approving the Project under CE 6, the Project's website as of August 8, 2020 listed CE 6 in addition to CE 603 and CE 605 under a section titled "Project Information."[140]

2. THE PROJECT IS INCONSISTENT WITH THE LAND MANAGEMENT PLAN FOR THE LOS PADRES NATIONAL FOREST.

The Project conflicts with the direction of the Land Management Plan developed for the Los Padres in 2005 primarily in at least two ways: probable impacts to scenic integrity objectives and a failure to adhere to standards and directions regarding WUI zones and CWPPs.

A. Scenic Integrity Objectives

The entire Project Area has a scenic integrity objective ("SIO") of "High" according to the Land Management Plan, however, this is not mentioned anywhere in the Project Description. Land Management Plan Standards state:

> S9: Design management activities to meet the Scenic Integrity Objectives (SIOs) shown on the Scenic Integrity Objectives Map.
>
> S10: Scenic Integrity Objectives will be met with the following exceptions:
>
> - Minor adjustments not to exceed a drop of one SIO level is allowable with the Forest Supervisor's approval.

[139] FSH 1909.15_10.11.6
[140] https://www.fs.usda.gov/project/?project=58012&exp=detail

- Temporary drops of more than one SIO level may be made during and immediately following project implementation providing they do not exceed three years in duration.[141]

The Forest Service has not shown how the Proposed Action would meet the SIO for the Project Area. A drastic reduction in trees and shrubs in the area would likely reduce the SIO level. Arguably, extensive tree and shrub removal will alter the landscape character, measurably, so that it no longer appears intact or appears "slightly altered," as for a "moderate" SIO, or even "moderately altered" as for a "low" SIO.

This reasoning is supported by statements in the EA for the Frazier Mountain Project, which provides an example of how the agency analyzed the effects of similar project activities on SIOs. There, the environmental consequences from Alternative 2 (which included removal of commercial-sized trees) states that "[t]he SIO may drop from High to Low…." On the other hand, the consequences from Alternative 3, the non-commercial alternative with a 10-inch diameter limit, states that "[t]he SIO will remain High…."[142] And while S10 in the LMP allows for a decrease in the SIO level of an area, this is only for "during and immediately following the project implementation providing they do not exceed three years in duration." While the agency did not explicitly state whether retreatments would occur, we assume that they would based on the DM for the similar Cuddy Valley Forest Health/Fuels Reduction Project which was signed in 2018. It states:

> Stands retreatments may need to occur every 3 to 7 years depending on the amount of regrowth that occurs. The higher frequency of retreatment is anticipated to occur within the sagebrush-scrub areas.[143]

This would likely be the case, especially in the chaparral-dominated portions of the Project Area, and would therefore extend the impact to the area's SIO level far beyond three years as it would be essentially perpetual. Such a continual impact would conflict with S10 in the Land Management Plan.

B. WUI Zones and CWPPs

It is unclear based on the Project Description whether the agency is claiming that a specific goal of the Proposed Action is community protection. However, fire risks to a specific community are mentioned several times in the Project Description and the scoping letter. Additionally, the Project Description includes Goal 1.1 from the Land Management Plan Part 2, which is titled

[141] Forest Service. 2005b. Land Management Plan Part 3: Design Criteria for the Southern California National Forests. R5-MB-080.
[142] U.S. Forest Service. 2012. Frazier Mountain Project, Final Environmental Assessment.
[143] U.S. Forest Service. 2019. Cuddy Valley Forest Health/Fuels Reduction Project, Decision Memo.

"Community Protection." Therefore, it may be reasonable to infer that one of the aims of the Project is to improve community protection.

The Land Management Plan gives deference to local community wildfire protection plans ("CWPPs") to determine the extent of the WUI and its Defense and Threat Zones (2005b). Indeed, the U.S. Forest Service worked with the Mt. Pinos Communities Fire Safe Council ("MPCFSC") to develop the Mt. Pinos CWPP. This CWPP—discussed in further detail in the following section—defines the Defense and Threat Zones combined as the area within 1,820 feet from the edge communities (i.e. structures). However, only approximately 115 acres of the proposed 1,626-acre Project is located within the Threat Zone. None of the Project Area is located within the Defense or Threat Zones for the nearest area mentioned by the Mt. Pinos CWPP—Camp Scheideck—which is a little over three miles from the Project boundary.

The Project is therefore inconsistent with the Land Management Plan, as it proposes vegetation treatment for the direct protection of communities, yet does not adhere to the Mt. Pinos CWPP due to its location outside of the Threat Zone (as defined by the Mt. Pinos CWPP) and its prioritization over other community needs such as the projects recommended by the CWPP. There is a more detailed analysis of the Project's inconsistency with the Mt. Pinos CWPP in the following section.

Even if the Mt. Pinos CWPP's definitions were not used, the Land Management Plan defines the WUI Threat Zone as "an additional strip" that "generally extends approximately 1.25 miles out from the Defense Zone boundary."[144] The WUI Defense Zone is defined as having a maximum width of 1,500 feet from structures in forests and only 300 feet in chaparral.[145] Moreover, S8 of the Land Management Plan states:

> Community protection needs within the WUI Defense Zone take precedence over the requirements of other forest plan direction, including other standards identified in Part 3 of the forest plan.[146]

This can be interpreted as meaning that projects within the WUI Defense Zone should be prioritized. Regardless, the Project Area is well beyond any prioritized area for community protection mentioned in the Mt. Pinos CWPP (to which the Land Management Plan defers) or the Land Management Plan.

Additionally, much of the Project Area is located in the Back Country Non-motorized ("BCNM") zone. The Land Management Plan states that the management intent is to "retain the

---

[144] U.S. Forest Service. 2005. Land Management Plan Part 3: Design Criteria for the Southern California National Forests. R5-MB-080. pg. 5

[145] *Id*.

[146] *Id.*

undeveloped character and natural appearance" of this zone. The Land Management Plant also states:

> Wildland/Urban Interface Threat Zones (see Appendix K in Part 3 of the forest plan) may occur in this zone. Managers anticipate locating community protection vegetation treatments that require only temporary roaded access (such as mechanical thinning of trees or prescribed burning) within the Back Country Non-Motorized zone.[147]

It is reasonable to interpret the second sentence of this statement as dependent on the first. In other words, vegetation treatments may occur in the BCNM zone when they are also in the WUI Threat Zone. Thus, the Project does not align with the Land Management Plan as it is not only located outside of the Threat Zone (as detailed above) but also does not contribute to retaining the natural character of the BCMUR zone.

3. THE PROJECT IS INCONSISTENT WITH THE ROADLESS RULE.

The Project includes the removal of trees up to 64" DBH across 311 acres of the Sespe-Frazier IRA. This timber may be sold through a traditional timber sale, or a third-party contractor may be able to keep some of the timber in exchange for doing the work under a stewardship contract. The Roadless Rule clarifies the extent to which timber harvest may or may not occur in IRAs:

> (a) **Timber may not be cut, sold, or removed in inventoried roadless areas of the National Forest System**, except as provided in paragraph (b) of this section.
>
> (b) Notwithstanding the prohibition in paragraph (a) of this section, timber may be cut, sold, or removed in inventoried roadless areas if the Responsible Official determines that one of the following circumstances exists. **The cutting, sale, or removal of timber in these areas is expected to be infrequent.**
>
> (1) The cutting, sale, or removal of **generally small diameter** timber is needed for one of the following purposes **and will maintain or improve one or more of the roadless area characteristics as defined in § 294.11**.
>
> (i) To **improve** threatened, endangered, proposed, or sensitive species habitat; or
>
> (ii) To maintain or restore the characteristics of ecosystem composition and structure, such as to reduce the risk of **uncharacteristic wildfire effects**, within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period;

[147] *Id.* (emphasis added)

> (2) The cutting, sale, or removal of timber **is incidental to the implementation of a management activity** not otherwise prohibited by this subpart;
>
> (3) The cutting, sale, or removal of timber **is needed and appropriate** for personal or administrative use, as provided for in 36 CFR part 223; or
>
> (4) Roadless characteristics have been substantially altered in a portion of an inventoried roadless area due to the construction of a classified road and **subsequent timber harvest**. Both the road construction and subsequent timber harvest must have occurred after the area was designated an inventoried roadless area and prior to January 12, 2001. Timber may be cut, sold, or removed only in the substantially altered portion of the inventoried roadless area.[148]

The Project does not meet any of the criteria established in 36 CFR § 294.13(b). Particularly, the Project cannot be classified under 36 CFR § 294.13(b)(1) for two reasons: the Proposed Action would negatively impact threatened, endangered, proposed, or sensitive species habitat rather than improve it and the Proposed Action will not reduce the risk of uncharacteristic wildfire effects since mixed-severity fire is characteristic of mixed-conifer forests.[149] Both of these issues have been addressed previously in this letter, and are incorporated here by reference.

Additionally, the Proposed Action states:

> Consistent with the 2001 Roadless Area Conservation Rule, generally only smaller diameter timber would be cut or removed within the inventoried roadless area. Within the project area, trees range between 1-inch up to 64 inches diameter at breast height. The project is proposing to thin the lower one-half of the diameter class level within the inventoried roadless area between less than 1-inch and 23.9 inches diameter at breast height. Large trees are defined by the Forest Plan as those larger than 24 inches diameter at breast height (LMP Part 2). Small trees are those less than 24 inches diameter at breast height. Trees 24 inches diameter at breast height and larger would be retained within the project's inventoried roadless area unless removal is needed for safety reasons or dwarf mistletoe infestations.[150]

This is problematic for two reasons. First, the agency's determination of what constitutes a large or small tree is arbitrary and capricious. While the Land Management Plan Part 2 does call

---

[148] 36 CFR § 294.13 (emphasis added)

[149] Odion, D.C., C.T. Hanson, A. Arsenault, W.L. Baker, D.A. DellaSala, R.L. Hutto, M.A. Moritz, R.L. Sherriff, T.T. Veblen, and M.A. Williams. 2014. Examining Historical and Current Mixed-Severity Fire Regimes in Ponderosa Pine and Mixed-Conifer Forests of Western North America. *PLoS ONE*, 9(2):e87852. doi:10.1371/journal.pone.0087852

[150] U.S. Forest Service. 2020. Reyes Peak Forest Health and Fuels Reduction Project Description. pg. 18

trees greater than 24" DBH "large-diameter,"[151] it does not also state that anything less than 24" DBH is a "small tree." It is unreasonable to assume that a 23.9" DBH tree is a "small tree" while a 24" DBH tree is a "large tree." Rather, there is some transition size that may be considered a medium tree. The Roadless Rule specifies "small diameter," so demonstrating this distinction is important.

A document more recently issued by Los Padres National Forest officials than the 2005 Land Management Plan dealt with this same issue differently. The Pine Mountain Club ("PMC") Project similarly involved tree and shrub removal in an IRA (Sawmill-Badlands IRA), and an EA was developed for the project and finalized in 2006. A Decision Notice ("DN") and Finding of No Significant Impact ("FONSI") was signed by the forest supervisor in 2008. The DN mentions a distinction between small, medium, and large trees several times. For instance:

> To meet the project objectives and move the current condition toward the desired future condition, treatment needs are to reduce standing dead and live fuels, reduce ladder fuels, and break up the continuity of small to **medium-sized** trees and shrubs.[152]

Here the agency is acknowledging that there is indeed a medium-sized category of trees, which the agency would not be allowed to cut in the IRA under the Roadless Rule. The PMC Project DN goes on to state:

> A masticator will be used on brush and **small trees (less than about 8 inches in diameter)** to reduce the depth of fuels, reducing fire behavior.[153]

Furthermore, the agency states in the PMC Project DN:

> After reviewing all alternatives and comments, I have decided that **preserving qualities in the Inventoried Roadless Areas** is a reason to select a modified Alternative 3a. This will result in **no planned thinning of trees over 12 inches diameter** in treatment blocks A ,D, E, and G for a total of about 1,690 acres (90 percent of the project area).[154]

This decision makes it clear that the agency was attempting to comply with the Roadless Rule, limiting the size of trees that could be removed in the Sawmill-Badlands IRA to those less than 12" DBH, which is half the size of the threshold that the agency is using to distinguish small from large trees in the Reyes Peak Project Description.

---

[151] U.S. Forest Service. 2005. Land Management Plan Part 2: Los Padres National Forest Strategy. R5-MB-078. pg. 117

[152] U.S. Forest Service. 2008. Pine Mountain Club Project, Decision Notice. (emphasis added)

[153] *Id.* pg. 5 (emphasis added)

[154] *Id.* pg. 10 (emphasis added)

The U.S. Forest Service has also acknowledged trees as being "smaller" when less than 10 inches DBH in a similar project on Frazier Mountain. The U.S. Forest Service developed a preferred alternative for the Frazier Mountain Project that would have limited timber harvest to 10" DBH or less. The project documentation noted:

> …Alternative 3 where the understory thinning would only remove **smaller diameter** trees (thin from below up to 10" [DBH]) and would leave the **larger diameter** (>10" [DBH]) trees.[155]

It should be noted that the Frazier Mountain Project did not include treatment within an IRA and was thus not limited by the Roadless Rule. It is therefore reasonable to assume that the U.S. Forest Service is aware that the 24"DBH limit—which should not even be considered a "limit" as reasoned below—they have suggested for the portions of the Project that will occur in the Sespe-Frazier IRA would not qualify as "generally small diameter" as set forth in the Roadless Rule.[156]

Thus, the agency has previously acknowledged that trees may be defined as "small" or "smaller" when much less than 24" DBH, which elicits an important question: why is the agency suddenly using a new, much larger size threshold for trees that will be cut in an IRA? Again, both of the project decisions mentioned above were signed well after the Land Management Plan was adopted, indicating that the agency made those decisions regarding which trees are considered small or smaller despite the language in the Land Management Plan.

Moreover, this design feature described in the Project Description regarding trees that will be cut in the Sespe-Frazier IRA is not specific, including a vague term such as "generally" with no indication of how many trees greater than 24" DBH will be removed from the IRA during the Project. Perhaps more concerning is the fact that the 24" DBH "limit" is not really a limit at all as the Project Description describes exceptions that would allow trees between 24" and 64" DBH within the IRA. The issues surrounding these exceptions are described in more detail in Section 1.A of this letter.

Furthermore, the Project does not fit any of the other enumerated circumstances where timber harvest is allowed in IRAs. The cutting, sale, or removal of timber would not be incidental to the implementation of a management activity as the cutting and removal of timber is the primary focus of the Project across much of the Sespe-Frazier IRA within the Project Area. In fact, the Proposed Action would remove approximately 17 – 50%[157] of the live tree basal area in the IRA

---

[155] U.S. Forest Service. 2012. Frazier Mountain Project, Final Environmental Assessment. (emphasis added)
[156] See *Sierra Club v. Eubanks*, 335 F. Supp. 2d 1070 (E.D. Cal. 2004)
[157] While the tree density targets and basal area data presented in the Project Description are incongruent and illogical (see Section 1.B.4 of this letter), we used the basal area targets to calculate this range. The agency aims to reduce basal area to 60 – 100 ft^2 per acre from the stated approximately 120 ft^2 per acre on average currently. Thus, a reduction from 120 to 60 ft^2 would be 50% reduction and a reduction from 120 to 100 ft^2 would be a 17%

portion of the Project Area—a significant impact to the character of this portion of the Sespe-Frazier IRA. The timber harvest proposed in the Project is not needed or appropriate for personal or administrative use under 36 CFR § 223. And the Project Area has not been subject to a timber harvest that would have substantially altered the portion of the Sespe-Frazier IRA that falls within the Project Area before January 12, 2001. Therefore, in compliance with the 2001 Roadless Rule, timber may not be cut, sold, or removed in the Sespe-Frazier IRA during this Project. This prohibition would inhibit most of the Proposed Action on 311 acres within the Project Area.

It should be noted that the agency appears to, in part, attempt to assuage the public of any concerns about potential impacts to the Sespe-Frazier IRA by stating in the Project Description:

> Overall, the Sespe-Frazier Inventoried Roadless Area has low wilderness values and characteristics with uses that cannot be effectively managed as wilderness (LMP amendment, p. 25).[158]

The "wilderness values" of an IRA are irrelevant to any determination of impacts to roadless characteristics. Wilderness values are not included as any of the nine elements of "roadless character" as delineated in the Roadless Area Conservation Rule.[159] Thus, wilderness values are not an appropriate consideration for an area's roadless characteristics. Here, the Forest Service is conflating wilderness values with roadless characteristics when the two terms have very different meanings under the law.

4. THE PROJECT IS INCONSISTENT WITH THE MT. PINOS COMMUNITY WILDFIRE PROTECTION PLAN.

As the agency mentioned the Mt. Pinos CWPP in reference to Camp Scheideck over three miles north of the Project Area, it is important to note that the Project was not identified as a need or goal in the 2006 Mt. Pinos CWPP or its 2009 update. In fact, Pine Mountain was not mentioned throughout the entire 181-page document or the single table that was added as an update in 2009.

The Mt. Pinos CWPP created by HangFire Environmental for the MPCFSC in 2006 defines the WUI as being comprised of three zones: the Defense Zone, Threat Zone, and Wildland Zone. The "Defense Zone" is the area within 500 feet of developed parcels, the Threat Zone is a 0.25-mile buffer around the Defense Zone, and the area beyond the Threat Zone is the Wildland

---

reduction. As the stated 120 ft^2 per acre is an average of the current stands in the Project Area according to the agency, the actual % reduction may vary more than this calculated range. This is as detailed as we can be here without the tree stand exam data, which the agency has refused to provide (see Sections 1.B.4 and 6 of this letter).

[158] U.S. Forest Service. 2020. Reyes Peak Forest Health and Fuels Reduction Project Description. pg. 12

[159] 36 CFR § 294.11

Zone. The Mt. Pinos CWPP prioritizes vegetation alteration projects in the Defense and Threat Zones.

Indeed, the Mt. Pinos CWPP states:

> A community that didn't show up in the assessment[] as a very high wildland fire hazard but certainly has serious concerns is Camp Scheideck…. The owner of Camp Scheideck has cleared brush from behind the homes but a larger distance is necessary. It is recommended that the 100 feet of defensible space is provided behind the homes (Map 54). A fuelbreak around the community is also recommended to reduce the chances of a wildfire from spreading into the community or into the forest. Some of this work has been performed already. A fuelbreak has been cut through the brush southwest of the community. All of the land within the fuelbreak system is owned by a single private owner or the USFS. The proposed fuelbreak crosses wilderness land [sic] It will be up to the respective stakeholders to determine if the project can be implemented.[160]

The map of the proposed fuel break around Camp Scheideck as obtained from the Mt. Pinos CWPP can be seen as Figure 18. The fuel break is less than 1,000 feet from structures in its entirety. We are unsure about the status of this fuel break. Regardless, the Mt. Pinos CWPP does not mention a need for fuel breaks farther away from Camp Scheideck, such as along Pine Mountain Ridge. The agency should be focusing its limited funding on projects recommended for that particular area in the Mt. Pinos CWPP.

5. THE U.S. FOREST SERVICE FAILED TO FACILITATE AN ADEQUATE SCOPING PROCESS FOR THE PROJECT.

The Project Description does not contain the level of detail required by NEPA and U.S. Forest Service directives implementing NEPA. Because of this lack of detail, interested agencies and the public cannot formulate meaningful comments on this proposal.

First, NEPA requires scoping to be an "early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action."[161] U.S. Forest Service directives emphasize the importance of scoping in achieving NEPA compliance, stating that:

> The process of scoping is an integral part of environmental analysis. Scoping includes refining the proposed action, determining the responsible official and lead and cooperating agencies, identifying preliminary issues, and identifying

[160] Mt. Pinos Communities Fire Safe Council. 2006. The Mt. Pinos Communities Wildfire Protection Plan.
[161] 40 CFR § 1501.7

> interested and affected persons. Effective scoping depends on all of the above as well as **presenting a coherent proposal**.[162]

An adequate project description assists the public and interested agencies in identifying issues and providing meaningful comments. To this end, the General Counsel of the Council on Environmental Quality ("CEQ") has concluded that

> Scoping cannot be useful until the agency knows enough about the proposed action to identify most of the affected parties, and to present a **coherent proposal**…[163]

The Project Description fails to present such a "coherent proposal." Instead, the Proposed Action is described as being needed for disparate reasons such as reducing tree stand densities, treating areas of bark beetle infestation, and providing a safe space for firefighters in the event of a wildfire in or near the Project Area. As described in Section 1.A in this letter, the Project Description contains numerous errors including incorrect citations, erroneous statements, and incongruencies. Moreover, both the scoping letter and the Project Description fail to specify the duration of the Project and at what time of year it will be implemented.

An appropriate scoping letter contains "a brief information packet consisting of a description of the proposal, **an initial list of impacts and alternatives**, maps, drawings, and **any other material or references that can help the interested public to understand what is being proposed.**"[164] The Project's scoping letter falls far short of this guidance. For example, the letter and Project Description are missing an initial list of impacts and alternatives. Thus, the public does not know what the main issues are surrounding this proposal and therefore cannot frame appropriate comments. Additionally, the U.S. Forest Service did not provide a packet containing all of the works cited in the Project Description.

Perhaps more importantly, the Forest Service began the scoping period in the middle of a global pandemic and economic recession during which the public may have been ill-equipped to engage in the scoping process. Citing the ongoing COVID-19 pandemic, the agency stated that it was unable to host in-person field tours or meetings. Instead, the agency hosted three online webinars that were rife with technical issues. Multiple people were unable to log in to the first webinar or hear audio. Attendees were only able to ask questions via a text chat function, and many questions were never answered by agency personnel. Overall, the process presented many barriers to meaningful engagement.

We urge the U.S. Forest Service to re-issue a scoping letter that complies with NEPA and U.S. Forest Service directives. An adequate scoping letter is particularly important in cases where

---

[162] FSH 1909.15.10
[163] CEQ 1981
[164] *Id.* emphasis added

CEs are involved, because the scoping letter is sometimes the only document the public sees before a decision is made. This will enable the public to participate meaningfully in the process.

6. THE U.S. FOREST SERVICE WAS UNABLE OR UNWILLING TO PROVIDE DOCUMENTS REQUESTED DURING THE COMMENT PERIOD FOR THE PROJECT.

The scoping process for this Project has been significantly compromised—and the public's ability to participate in it has been significantly reduced—due to the lack of information provided to the public. Specifically, minimal documentation has been made available to the public despite repeated requests. Curiously, these hurdles to public participation could have been easily avoided had the U.S. Forest Service not rushed to prematurely issue the scoping notice, especially considering the ongoing global COVID-19 pandemic.

The scoping notice for the Project was issued on May 27, 2020. Over the course of the scoping period, ForestWatch made the following unfulfilled information requests to either the Project lead, the forest's FOIA Coordinator, or the forest supervisor (the request date and the status of each request is also included):

1. Any specialist reports that have already been completed for the Project specifically or that have been completed previously and which the agency intends to use for this project.
    a. Request Date: June 4, 2020
    b. Status: This request was submitted to the Supervisor's Office but then inexplicably forwarded to the Regional Office in Vallejo. Our last communication with the Regional Office on June 24, 2020 indicated that this request would be denied, but we have not received any formal response indicating whether the records will be withheld, and which FOIA exemption is being invoked. The 20-day deadline for a formal response has passed.
2. All tree stand data including but not limited to files containing trees per acre and basal area per acre for the Project Area.
    a. Request Date: June 4, 2020
    b. Status: This request was also forwarded to the Regional Office for unknown reasons. Our last communication with the Regional Office on 6/24 indicated that the agency was requesting this data from a contractor. To date, we have not received the records nor any formal response.
3. Most recent list of U.S. Forest Service-designated sensitive plant species.
    a. Request Date: June 9, 2020

b. Status: The agency provided us with a list of sensitive animal species on June 26, 2020. We followed up with a second request for the list of sensitive plant species on June 27, 2020. To date we have not received any response.

4. A list of external organizations, individuals, and agencies with which the Forest Service has collaborated on the Project.

    a. Request Date: June 16, 2020

    b. Status: The agency provided us with a list of 369 email addresses (no names or other identifying information) to which they emailed the Proposed Action on June 23, 2020. The next day, we notified the agency that this record did not respond to our request and repeated our request for a list of organizations with whom the agency has collaborated on this project. There has been no response.

5. Any survey data and survey reports in the Project Area (not including archaeological or cultural surveys).

    a. Request Date: June 24, 2020

    b. Status: Declined. On July 15, 2020 the agency stated that these records will only be made available to us after the decision is signed. There has been no response to our follow-up request dated July 21, 2020

6. A list of sensitive species that occur, or may occur, in the Project Area.

    a. Request Date: June 24, 2020

    b. Status: The agency provided us with an outdated 2013 list of all sensitive plant species that occur anywhere in the Los Padres National Forest. There has been no response to our follow-up request dated July 21, 2020.

7. Communications with U.S. Fish and Wildlife Service regarding the project.

    a. Request Date: June 24, 2020

    b. Status: Declined. On July 15, 2020 the agency stated that these records will only be made available to us after the decision is signed. There has been no response to our follow-up request dated July 21, 2020

As the U.S. Forest Service intends to use two CEs for this project, the scoping comment period may be the only the chance the public has to voice their concerns about the Project and its potential impacts on wildlife and other natural resources. Because of this intention by the agency, more information should have been prepared before the scoping notice was issued. At the very least, a list of threatened, endangered, proposed, and sensitive species that occur in the Project Area and the Proposed Action's potential impacts to these species should have been provided to the public before or during the public comment period. In fact, the FSH states as much:

> Scoping includes refining the proposed action, determining the responsible official and lead and cooperating agencies, **identifying preliminary issues**, and identifying interested and affected persons….Identify and evaluate preliminary issues based on review of similar actions, knowledge of the area or areas involved, **discussions with** interested and affected persons, community leaders, organizations, **resource professionals within the Agency, and State and local governments, and/or consultations with experts and other agencies familiar with such actions and their direct, indirect, and cumulative effects**.[165]

The U.S. Forest Service should be striving to increase public participation as it proposes and evaluates projects that affect public lands. The scoping process for the Project did not facilitate public participation. Instead, the U.S. Forest Service distributed limited information regarding the agency's proposed project to a limited number of interested parties and then avoided public requests for more information during what may be the only public comment period for the Project. Regarding public participation needs during the NEPA process, the FSH states:

> 4. Determine the methods of public involvement to meet the objectives. **Ensure that the level of effort to inform and to involve the public is consistent with the scale and importance of the proposed action and the degree of public interest.**[166]

As the Proposed Action will impact 755 acres of mixed-conifer forest and chaparral habitat, endangered species habitat, sensitive species, and an IRA, the Project should be considered significant in its importance and thus the effort to inform and involve the public should be significant as well. Such efforts should include considerable responsiveness to and willingness to answer public requests for more information about the Project.

7. THE FOREST SERVICE HAS PREPARED AN EA OR AN EIS FOR SIMILAR AND/OR SMALLER PROJECTS THROUGHOUT THE LOS PADRES NATIONAL FOREST.

The Forest Service indicated in its scoping notice for the Project that it intends to use a CE to exempt the Project from EA or EIS preparation. The use of a CE for this project does not align with the U.S. Forest Service's decision to prepare an EA or an EIS for several similar and smaller projects across the Los Padres National Forest.

The Monterey Ranger District's Strategic Community Fuelbreak Improvement Project was approved in 2018. A draft EIS ("DEIS") for the project was published in early 2017. The DEIS included a Proposed Action of establishing and enhancing 542 acres of fuel breaks in the Big Sur area. By area alone, the Strategic Community Fuelbreak Improvement Project is smaller than

[165] FSH 1909.15.11 (emphasis added)
[166] FSH 1909.15.11.52 (emphasis added)

the currently-proposed Project. However, the U.S. Forest Service did not attempt to apply a CE and instead prepared an EIS. While the Reyes Peak Project will not directly impact designated wilderness, it will have a comparable impact on the Sespe-Frazier IRA (and legislatively-proposed wilderness areas) as detailed in the previous section. The U.S. Forest Service is required to consider these potential significant impacts to an IRA in a similar manner as it would consider impacts to a wilderness. We strongly recommend that the U.S. Forest Service develop an EIS for the Project as the agency has already done for the smaller Strategic Community Fuelbreak Improvement Project.

The Mt. Pinos Ranger District announced the Frazier Mountain Project—a project similar in scope to the currently-proposed Project—in 2010. This project entailed the commercial logging, mechanical vegetation removal, prescribed burns, and fuel break construction on 2,386 acres on and around Frazier Mountain in the Los Padres National Forest. In the project's scoping notice, the U.S. Forest Service indicated that an EA would be prepared for the project. This was ultimately completed in 2012, at which time a decision memo ("DM") was issued stating that the preferred alternative that did not include a commercial timber harvest was selected.

Similarly, the Mt. Pinos Ranger District prepared an EA for the PMC Project, which was finalized and approved in 2008. The alternative selected for that project included a 12" DBH limit on trees that could be removed across most of the 1,865-acre treatment area as stated previously and stated that the project would not involve commercial timber harvest.

In 2005, the Santa Lucia Ranger District announced the Figueroa Mountain Project, which entailed thinning and vegetation clearing across 665 acres. A CE was initially considered to exempt this project from further NEPA documentation, but after working with ForestWatch and other members of the public, the U.S. Forest Service decided to prepare an EA for the project. This EA was completed and released in 2006, and it included several environmental constraints that improved the Proposed Action over the initially-proposed project.

A project similar to the Project was announced in 2005. This project—called the Pine Mountain Recreation Area Project—sought to remove trees across 210 acres of some of the same areas proposed for treatment in the Project. While initially proposed as a CE, the Forest Service notified the public that it would instead prepare an EA for the project in 2008. The project was never approved and was removed from the agency's list of proposed action in 2012 without explanation. The agency was unable to locate any records relating to this project other than the initial public scoping notice from 2005.

Since 2007, no new large-scale vegetation removal or thinning projects have been conducted in the Los Padres National Forest using a CE. Since this time, all such projects have either been completed following the preparation of an EA or EIS, with only two controversial projects approved under CEs. The Forest Service should follow its previous decisions in preparing—at minimum—an EA for the current Project, which entails similar project activities across a larger area.

8. THE FOREST SERVICE SHOULD ANALYZE THE FOLLOWING ISSUES IN AN EA OR EIS FOR THE PROJECT.

In preparing an EA or EIS for the Project, there are several issues that should be considered. These issues—detailed below—align with issues analyzed in the EA and EIS documents prepared for other projects proposed across the Los Padres National Forest. We highlight them here to demonstrate the benefits of a more robust environmental analysis that would occur if the Project is not categorically excluded from preparation of an EA or EIS.

A. Range of Reasonable Alternatives

The National Environmental Policy Act of 1969 ("NEPA") requires the U.S. Forest Service to "[s]tudy, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources".[167] As part of this alternatives analysis, the EA or EIS must "[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".[168] Furthermore, the alternatives analysis "is the heart of the environmental impact statement".[169]

Reasonable alternatives are those that are viable, feasible, meet the stated goals of the project, or are reasonably related to the purposes of the project.[170] An agency must look at every reasonable alternative, with the range dictated by the nature and scope of the proposed action, sufficient to permit a reasoned choice.[171] But the agency cannot contrive the project's purpose so narrowly that competing reasonable alternatives cannot be fully considered.[172] The "rule of reason" guides the choice of alternatives, the extent to which the agency must discuss each alternative, and whether the agency defined the project's purposes too narrowly to allow consideration of alternatives.[173]

It is important to note that "[t]he existence of a viable but unexamined alternative renders an [EIS] inadequate."[174] It is therefore not only the responsibility of the U.S. Forest Service to follow NEPA regulations when exploring reasonable alternatives but also to ensure that

---

[167] 40 CFR § 1501.2(c)
[168] *Id.* § 1502.14(a)
[169] *Id.* § 1502.14
[170] *Idaho Conservation League v. Mumma*, 956 F.2d 1508, 1519 (9th Cir. 1992); *City of Carmel-By-The-Sea v. U.S. Dept. of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997); *Trout Unlimited v. Morton*, 509 F.2d 1276, 1286 (9th Cir. 1974)
[171] *Idaho Conservation League*, 956 F.2d at 1520
[172] *City of Carmel*, 123 F.3d at 1155
[173] *Id.*; *see Simmons v. U.S. Army Corps of Engineers*, 120 F.3d 664, 666 (7th Cir. 1997) (noting that "[o]ne obvious way for an agency to slip past the strictures of NEPA is to contrive a purpose and need so slender as to define competing reasonable alternatives out of consideration (and even out of existence)")
[174] *Natural Resources Defense Council v. U.S. Forest Service,* 421 F.3d 797, 813 (9th Cir. 2005) (quoting *Citizens for a Better Henderson v. Hodel,* 768 F.2d 1051, 1057 (9th Cir. 1985))

"selection and discussion of alternatives fosters informed decision-making and informed public participation."[175]

Current research supports that defensible space immediately around structures is the most effective approach to protecting homes and other structures from the effects of wildfire. Studies have shown the importance of defensible space in protecting residential structures from a wildfire. A 2014 study found that:

> In terms of actionable measures to reduce fire risk, this study shows a clear role for defensible space up to 30 m (100 ft)...Results here suggest the best actions a homeowner can take are to reduce percentage cover up to 40% immediately adjacent to the structure and to ensure that vegetation does not overhang or touch the structure.[176]

The U.S. Forest Service should explore programs that would provide targeted assistance and funding to create and enhance defensible space around structures.

The EA or EIS should also evaluate an alternative that would reduce the length and/or width of the proposed fuel break in a way that would still achieve Project objectives. Additionally, the EA or EIS should evaluate benefits of large tree retention as part of one or more alternatives to the Proposed Action.

Considering the substantial amount of research questioning the efficacy of fuel breaks generally, an alternative that explores methods excluding the development of a fuel break would also be useful in the discussion surrounding the Project.

B. Protection of Plants and Wildlife

The ESA[177] requires the U.S. Forest Service to consult with the USFWS to ensure 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."[178] The Project Area contains habitat for several species protected under the ESA. Please consult with USFWS pursuant to Section 7 of the ESA and incorporate measures into the Proposed Action and alternatives to reduce or avoid impacts to protected species.

The Project Area is located in and near known foraging, roosting, and nesting habitats for the endangered California condor. The EA or EIS should identify these habitat areas and should propose adequate buffers to protect the integrity of these sites and condor flight patterns and

---

[175] *California v. Block*, 690 F.2d 753, 767 (9th Cir. 1982)

[176] Syphard, A.D., T.J. Brennan, and J.E. Keeley. 2014. The role of defensible space for residential structure protection during wildfires. *International Journal of Wildland Fire*, 23(8) :1165-1175. dx.doi.org/10.1071/WF13158

[177] 16 U.S.C. §§ 1531 et seq.

[178] 16 U.S.C. § 1536(a)(2)

behavior, consistent with the best available science. The U.S. Forest Service should initiate consultation with the USFWS to determine whether the Project will impact condors or their roosting habitat or flight patterns and whether any particular mitigation measures should be adopted.

The Project Area contains habitat for several species that the U.S. Forest Service has identified as Sensitive or as Management Indicator Species. The EA or EIS should adequately evaluate the impacts of the Project and alternatives on these special-status species and their associated habitats.

In particular, the EA or EIS should contain a thorough discussion on the impacts of the Project on California spotted owls, a U.S. Forest Service sensitive species. The U.S. Forest Service has identified vegetation removal and human disturbance as two of the primary factors threatening the viability of spotted owls. The EA or EIS should disclose whether the fuelbreak is located within any Protected Activity Centers for spotted owls and should propose mitigation measures as appropriate.

To assist in preparation of the EA or EIS, the U.S. Forest Service should follow established survey protocol to assist the agency in accurately identifying habitat and determining the presence or absence of listed species in and around the Project Area. The entire project area should be thoroughly surveyed in accordance with *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* issued by the USFWS in 2000, and the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* issued by the California Department of Fish & Wildlife in 2009. Species-specific survey protocol should be incorporated as appropriate.

The range and predicted habitat of the northern goshawk—a U.S. Forest Service Sensitive Species and a Species of Special Concern with CDFW—includes the Project Area. Please evaluate the impacts of the Project on northern goshawk habitat and conduct protocol surveys consistent with the *Northern Goshawk Inventory and Monitoring Technical Guide* (U.S. Forest Service 2006).

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 U.S. 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 EA or EIS 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.[179]

Based on this uncertainty, please incorporate the following recommendations by Keane (2008) 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.

Migratory birds are perhaps the most highly valued component of North America's biological diversity, with approximately 1,200 species representing nearly 15% of the world's known bird species. The seasonal movement of migratory birds is one of the most complex and compelling dramas in the natural world. Migratory birds embark twice each year on long-distance journeys between their breeding areas and their wintering grounds, which are sometimes separated by thousands of miles. State, federal, and international law all recognize the importance of protecting migratory bird species from harm.

---

[179] Stephenson, J.R. and G.M. Calcarone. 1999. Southern California mountains and foothills assessment: habitat and species conservation issues. General Technical Report GTR-PSW-175. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture. pg. 402

Pursuant to the Migratory Bird Treaty Act ("MBTA"), it is unlawful "at any time, by any means or in any manner to . . . take [or] kill . . . any migratory birds, [and] any part, nest, or eggs of any such bird" (16 U.S.C. § 703(a)). This prohibition applies to federal agencies and their employees and contractors who may not intend to kill migratory birds but nonetheless take actions that result in the death of protected birds or their nests (*Humane Soc'y of the United States v. Glickman*, 217 F. 3d 882 (D.C. Cir. 2000) [holding that federal agencies are required to obtain a take permit from USFWS prior to implementing any project that will result in take of migratory birds]; see also *Robertson v. Seattle Audubon Soc'y*, 503 U.S. 429, 437–38, 1992 [finding that federal agencies have obligations under the MBTA] and *Center for Biological Diversity v. Pirie,* 191 F.Supp.2d 161 (D.D.C. 2002) [allowing injunctive relief against federal agencies for violations of the MBTA]).

The prohibition on "take" of migratory birds includes destruction of nests during breeding season. Specifically, "nest destruction that results in the unpermitted take of migratory birds or their eggs, is illegal and fully prosecutable under the MBTA" (USFWS 2003).

In a Memorandum of Understanding Between the U.S. Forest Service and the U.S. Fish and Wildlife Service to Promote the Conservation of Migratory Birds ("MOU"), the agencies identified specific actions that, if implemented, would contribute to the conservation of migratory birds and their habitats. The MOU requires the U.S. Forest Service to alter the season of activities to minimize disturbances during the breeding season, to coordinate with the appropriate USFWS Ecological Services office when planning projects that could affect migratory bird populations, and to follow all migratory bird permitting requirements.

Importantly, the MOU "does not remove the Parties' legal requirements under the MBTA, BGEPA, or other statutes and does not authorize the take of migratory birds."

Under the MBTA, "any person, association, partnership, or corporation" who violates the MBTA or regulations thereunder are subject to criminal and civil penalties (16 U.S.C. §707). Violations of the MBTA are prosecuted as a misdemeanor, and upon conviction thereof, are subject to fines of up to $15,000 or imprisonment of up to six months, or both.

In addition to the protections afforded by the federal MBTA and outlined above, several bird species within the Project Area are also protected under state law. Specifically, "[i]t is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird," and "it is unlawful to take or possess a migratory nongame bird" (s*ee* Cal. Fish & Game Code §§ 3503, 3513).

The EA or EIS should evaluate the effects of the Project and alternatives on migratory birds protected under the MBTA. Several migratory bird species occur in this area. The MBTA prohibits the destruction of nests and eggs of migratory birds. The EA or EIS should evaluate the impacts of project activities on migratory bird nests, should consider the breeding season for each migratory bird species found in the Project Area, and should propose measures (such as adjusting the season of use) to avoid destruction of nests. To mitigate the potential take of migratory bird nests, we recommend that the following mitigation measure be implemented for all vegetation clearing components of this Project:

[Los Padres National Forest] shall ensure that suitable nesting sites for migratory nongame native bird species protected under the Federal Migratory Bird Treaty Act and/or trees with unoccupied raptor nests (large stick nests or cavities) may only be removed prior to February 1, or following the nesting season.

A survey to identify active raptor and other migratory nongame bird nests may be conducted by a qualified biologist at least two weeks before the start of construction at project sites from February 1st through August 31st. Any active non-raptor nests identified within the project area or within 300 feet of the project area may be marked with a 300-foot buffer, and the buffer area may need to be avoided by construction activities until a qualified biologist determines that the chicks have fledged. Active raptor nests within the project area or within 500 feet of the project area may be marked with a 500-foot buffer and the buffer avoided until a qualified biologist determines that the chicks have fledged. If the 300-foot buffer for non-raptor nests or 500-foot 3 buffer for raptor nests cannot be avoided during construction of the Project, the project sponsor may retain a qualified biologist to monitor the nests on a daily basis during construction to ensure that the nests do not fail as the result of noise generated by the construction. The biological monitor may be authorized to halt construction if the construction activities cause negative effects, such as the adults abandoning the nest or chicks falling from the nest.

- Beginning thirty days prior to the disturbance of suitable nesting habitat, the project sponsor may arrange for weekly bird surveys conducted by a qualified biologist with experience in conducting breeding bird surveys to detect protected native birds occurring in the habitat that is to be removed and any other such habitat within 300 feet of the construction work area (within 500 feet for raptors) as access to adjacent areas allows. The last survey may be conducted no more than 3 days prior to the initiation of clearance/construction work.

  If an active raptor nest is found within 500 feet of the project or nesting habitat for a protected native bird is found within 300 feet of the project a determination may be made by a qualified biologist in consultation with CDFG whether or not project construction work will impact the active nest or disrupt reproductive behavior.

- If it is determined that construction will not impact an active nest or disrupt breeding behavior, construction will proceed without any restriction or mitigation measure. If it is determined that construction will impact an active raptor nest or disrupt reproductive behavior then avoidance is the only mitigation available. Construction may be delayed within 300 feet of such a nest (within 500 feet for raptor nests), until August 31 or as determined by CDFG, until the adults and/or young of the

year are no longer reliant on the nest site for survival and when there is no evidence of a second attempt at nesting as determined by a qualified biologist. Limits of construction to avoid a nest may be established in the field with flagging and stakes or construction fencing marking the protected area 300 feet (or 500 feet) from the nest. Construction personnel may be instructed on the sensitivity of the area.

Documentation to record compliance with applicable State and Federal laws pertaining to the protection of native birds may be recorded.[180]

It should also be noted that because the Project Area includes approximately 311 acres of the Sespe-Frazier IRA, there may be rare and sensitive plant species within portions of the projects due to the lack of previous surveys. As rare plant surveys are often conducted near roads because of ease of accessibility, some of the roadless areas within the Project Area may have never been surveyed for various plant species. The EA or EIS should also include the results of focused surveys for rare and sensitive plants that have been shown to occur near the Project Area, including but not limited to the species listed in Section 2 of this letter.

Lastly, the Project Area and its immediate vicinity is the only area on Earth where a particular species of moth—*Sympistis doris* T. Dimock & Troubridge—is known to occur. The species was discovered on Pine Mountain Ridge by Thomas Dimock in 2000 and subsequently described by J.T. Troubridge in 2008. Specifically, multiple specimens were found immediately around Pine Mountain Campground, which is within the Project Area.[181] While little is known about this relatively recently-discovered species, it may be at risk from the activities included in the Proposed Action. The agency should conduct focused surveys to determine where and to what extent *S. doris* occurs within and around the Project Area and analyze potential impacts to this species of limited distribution.

C. Cumulative Impacts

In the EA or EIS, please analyze all impacts of the Project, including cumulative effects.[182] 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"[183].

[180] California State Water Resources Control Board. 2014. Los Padres National Forest Road Repair Project: Mitigation Monitoring and Reporting Plan.

[181] Troubridge, J.T. 2008. A generic realignment of the Oncocnemidini *sensu* Hodges (1983) (Lepidoptera: Noctuidae: Oncocnemidinae), with description of a new genus and 50 new species. *Zootaxa*, 1903:1-95.

[182] 40 CFR §§ 1508.9(b), 1508.8

[183] 40 CFR § 1508.7

The cumulative impacts associated with this Project may include those impacts stemming from the probable extension of this fuel break across intermingled and adjacent private lands. Other potential cumulative impacts include the establishment of defensible space and previous wildfire suppression efforts.

D. Protection of Cultural and Archaeological Sites

The Project Area contains several sites deemed important to Native American history and culture. The EA or EIS should briefly describe the extent (but not the location) of Native American heritage sites in the Project Area, should summarize the extent the area has been surveyed for archaeological resources, and should discuss whether additional pre-implementation surveys should occur. Retain monitoring by a certified archaeologist and Chumash cultural resource monitor during all Project activities. Consult with the State Historic Preservation Officer in accordance with the National Historic Preservation Act.

Here we must also reiterate that "cultural sites" are not synonymous with "archaeological sites." Unlike archaeological sites, which can be identified from previous archaeological documentation, cultural sites can only be identified through consultation with Chumash tribes, bands, clans, and family groups. This information is generally closely held by culture bearers and is not made available to the public, academia, or agencies. Exceptions, under confidential conditions, can be made in order to protect these natural cultural resources. It also must be noted that there are several Chumash tribes, bands, clans, and family groups associated with the Project Area. These tribal entities are not interchangeable and culture bearers in each tribal group hold unique traditional knowledge relevant to cultural sites in the Project Area. A list of groups whose traditional homelands include the Project Area can be obtained from the Native American Heritage Commission and additional Chumash community outreach. (see Section 1.F.4 of this letter).

E. Protection of Soil and Water Resources

The use of heavy equipment such as masticators, skidders, and loaders can result in soil disturbance and compaction and can damage neighboring vegetation. The EA or EIS should evaluate methods to avoid damage to soil integrity through compaction, contact with heavy equipment, and loss of litter layer.

The EA or EIS should also identify the steepness of all slopes in the Project Area and explain how the extent and method of vegetation removal will differ to account for differences in slope incline. Fuel break construction on steep slopes and in riparian areas and other wetlands should be avoided.

Vegetation manipulation and removal activities can involve ground disturbance, which is consequently likely to generate sediment and affect water quality. The EA or EIS 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 gullying.
- Identify specific measures the agency will take to comply with Best Management Practices. Analyze whether any vegetation clearing will increase erosion in the short- or long-term and evaluate the timing of any long-term water quality benefits.

F. Protection of Scenic Resources

The fuel break should be designed to minimize impacts to scenic resources. The entire Project Area is characterized as having a "High" scenic integrity objective according to the Land Management Plan for the Los Padres National Forest. The EA or EIS should examine potential impacts to the scenic integrity of the area.

G. Protection of Trees

The EA or EIS should disclose the extent of trees to be removed during fuel break construction and/or maintenance. The Proposed Action should include Design Criteria that prohibits the removal of trees above 10" DBH. If the removal of trees above this level is needed for fuel break integrity, then the EA or EIS should disclose the criteria that will be used to determine whether particular trees are to be removed.

It should be noted that studies have shown that removal of large trees may be detrimental to the goals of the Project. Bond et al. (2009b) found that stands dominated by large trees burned at lower severities than stands dominated by smaller trees. They state:

> This result suggests that harvesting larger-sized trees for fire-severity reduction purposes Is likely to be ineffective, and possibly counter-productive.[184]

The U.S. Forest Service should seek to mitigate any tree removal by planting trees in other locations in the Mt. Pinos Ranger District.

H. Invasive Species

The construction and maintenance of fuel breaks may lead to an increase in invasive plants in the Project Area that, in turn, could spread to surrounding wildlands. Specifically,

> Fuel manipulation can contribute to invasion by exotic plants. For example, fuel breaks can act as invasive highways, carrying exotic species into uninfested wildlands. Normally destroyed by stand-replacing fires, exotic seed banks can survive the lower fire severities in fuel breaks, resulting in source populations poised to invade adjacent burned sites….

---

[184] Bond, M.L., D.E. Lee, C.M. Bradley, and C.T. Hanson. 2009. 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.

> Fuel manipulations such as fuel breaks can create favorable conditions for nonnative weeds, increasing their movement into wildlands and building seed sources capable of invading after fire.[185]

Elsewhere, Keeley states:

> Forests and shrublands, particularly in California, have had a long history of experimentation with different types of fuel breaks. They are constructed to create barriers to fire spread and to provide access and defensible space for fire-suppression crews during wildfires. These activities have the potential for creating suitable sites for alien plant invasion, and invasion is closely tied to the loss in overstory cover. In a recent study of 24 fuel breaks distributed throughout California, alien plants constituted as much as 70% of the plant cover and the proportion of aliens varied significantly with distance to roads, fuel break age, construction method, and maintenance frequency (Merriam et al. 2006). The association of alien species with fuel breaks raises two critical concerns. One is that the linear connectedness of these disturbance zones acts as corridors for alien invasion into wildland areas. Another is that these zones of reduced fuels produce lower temperatures and thus safe sites for alien propagules during wildfires, ensuring survivorship of seed banks (Keeley 2001, 2004b). Consequently, following fires these fuel breaks represent a major source area for alien invasion of adjacent wildlands.[186]

Given the susceptibility of fuel breaks to serve as vectors for invasive weeds, the EA or EIS should evaluate the ability and likelihood of all project activities to contribute to the spread of invasive weeds. The EA or EIS should evaluate measures to minimize the introduction and spread of invasive plants and should be supported by a Noxious Weed Risk Assessment or something similar.

I. Efficacy of Fuel Breaks

The EA or EIS should include a comprehensive analysis on the efficacy of fuel breaks. There is a considerable amount of disagreement on the circumstances under which fuel breaks are effective, and what results fuel breaks are and are not able to achieve under a variety of weather conditions (described in Section 1.A.3 of this letter). The project analysis would benefit from a frank discussion on these matters.

In light of the ongoing controversy surrounding the overall effectiveness of fuel breaks, and with the potential environmental impacts of fuel breaks in mind, we continue to believe that

---

[185] Keeley, J.E. 2003. Fire and invasive plants in California ecosystems. *Fire Management*, 63(2):18-19.

[186] Keeley, J.E. 2006. Fire management impacts on invasive plants in the western United States. *Conservation Biology*, 20(2):375-384.

the U.S. Forest Service should focus its efforts on fuel treatments immediately adjacent to structures in the WUI. In fact, the U.S. Forest Service's own expert concluded:

> 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.[187]

J. Impacts of Mastication

The EA or EIS should evaluate the potential adverse impacts caused by mastication and other mechanical treatment of native vegetation. The EA or EIS should identify the specific locations within the Project Area where machine thinning, chipping, and mastication will be used. The environmental impacts associated with these methods should be thoroughly analyzed and the results included in the EA or EIS.

K. Impacts and Efficacy of Thinning

The analysis must address the complex effects of thinning including tendencies to reduce and increase fire hazard. The EA or EIS should disclose the scientific uncertainty surrounding fuel reduction (described in Section 1.A.3 of this letter) 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.

L. Benefits of Bark Beetles

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.

Thinning is often recommended to control outbreaks of bark beetles, but there is little direct evidence that this works. This seems to be recommended based on the presupposition that thinning will increase tree vigor, which will in turn increase the ability for trees to ward off infestation by insects. Some scientists have suggested caution in using thinning to control bark beetles as geographic and climactic variables may alter the effect. Hindmarch and Reid (2001)[188] 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.

---

[187] Cohen, J.D. 1999. Reducing the Wildland Fire Threat to Homes: Where and How Much? U.S. Forest Service Gen. Tech. Rep. PSW-GTR-173 (Exhibit 3).

[188] 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.

The Project Description describes a need to reduce the basal area per acre below 120 ft^2 because this is the threshold above which stands "are at imminent risk of bark beetle-associated mortality." This statement is apparently derived from Oliver (1995) as indicated by the Project Description. However, the U.S. Forest Service is not fully citing the findings by Oliver (1995). The author of that study found that native beetles reduced stand density by only about 13-20% after ponderosa pine stands reached high stand density levels (greater than 120 ft^2 basal area per acre). After such a reduction by native beetles, those stands gradually became dense once again. Oliver (2005) again found that young ponderosa pine forests experienced only a 17% reduction in basal area per acre after stands became dense and that the forests experienced lower mortality levels years after the initial beetle-induced mortality. Not only is the potential reduction in stand density by native beetles not as dramatic as the public is being led to believe, this reduction is part of a natural forest succession process.

Additionally, thinning could attract more 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 U.S. Forest Service must consider and disclose the factors that tend to attract insects and determine whether thinning will make things better or worse in the EA or EIS.

M. Benefits of Snags

The EA or EIS should discuss the retention of snags to benefit wildlife. It has long been known to forest ecologists that standing dead trees (snags) are critical to forest ecosystems. Franklin et al (1987)[189] wrote:

> At the time a tree dies, it has only partially fulfilled its potential ecological function. In its dead form, a tree continues to play numerous roles as it influences surrounding organisms.

For example, Verner et al. (1992)[190] recommends at least 20 ft^2 per acre of basal area of large snags, or about 8 large snags per acre on average, for suitable CSO habitat. Abundant large snags are essential for spotted owls because owl prey species depend on them.

In addition, the EA or EIS should note that higher densities of snags generally do not result in higher fire intensity (or severity) or increased fire risk as detailed more in Section 1.A.3 of this letter. Bond et al. (2009)[191] found no evidence that pre-fire mortality influenced fire severity in

---

[189] J.F. Franklin, H.H. Shugart, and M.E. Harmon. 1987. Tree Death as an Ecological Process: The causes, consequences, and variability of tree mortality. *BioScience*, 37(8):550-556.

[190] Verner, J., K.S. McKelvey, B.R. Noon, R.J. Gutiérrez, G.I. Gould Jr., and T.W. Beck. 1992. Assessment of the current status of the California spotted owl, with recommendations for management. In J. Verner, K.S. McKelvey, B.R. Noon, R.J. Gutiérrez, G.I. Gould Jr., T.W. Beck, tech. coords. The California spotted owl: a technical assessment of its current status. Gen. Tech. Rep. PSW-GTR-133. Albany, CA: U.S. Forest Service, Pacific Southwest Research Station: 3–26.

[191] Bond, M.L., D.E. Lee, C.M. Bradley, and C.T. Hanson. 2009. 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.

coniferous forests in the San Bernardino Mountains. The authors note that their "results provide compelling evidence that when fire does occur, stands with considerable tree mortality due to drought and insects will not burn at higher severity than stands without significant tree mortality, either in the short or long term". More recent studies have corroborated these findings[192] while others have even found that areas with a large number of dead trees (due to insect-induced mortality) may burn at lower severity.[193]

N. Wildfire Frequency

The EA or EIS should evaluate fire frequency in the area in and around Project Area 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 Area.

O. Consistency With Land Management Plan

The EA or EIS should evaluate whether and how the Project is consistent with the standards, guidelines, and desired conditions of the Land Management Plan for the Los Padres National Forest.

P. Frequency of Treatments

The Project Description does not describe whether the agency plans on reentering these stands at some point in the future and repeating vegetation removal or prescribed burning treatments. The EA or EIS should disclose the frequency of retreatments, as well as thresholds that will prompt retreatment.

Q. Hazard Tree Guidelines

The Proposed Action states that "[t]he removal of hazard trees (live and dead) of all sizes would occur along roads, trails, campgrounds and landings to provide for safety of personnel and the public." The EA or EIS should disclose the criteria used to determine which trees constitute a safety hazard. If the presence of dwarf mistletoe is to be used as a criterion, the EA or EIS should disclose specific information about the amount, location, etc (i.e. at point does the presence of dwarf mistletoe in a particular tree make it be considered a hazard tree).

---

[192] Hart, S.J., T. Schoennagel, T.T. Veblen, and T.B. Chapman. 2015. Area burned in the western United States is unaffected by recent mountain pine beetle outbreaks. PNAS, 112(14):4375-4380. doi: 10.1073/pnas.1424037112

Hart, S.J. and D.L. Preston. 2020. Fire weather drives daily area burned and observations of fire behavior in mountain pine beetle affected landscapes. *Environmental Research Letters*, 15:054007. doi.org/10.1088/1748-9326/ab7953

[193] Meigs, G.W., H.S.J. Zald, J.L. Campbell, W.S. Keeton, and R.E. Kennedy. 2016. Do insect outbreaks reduce the severity of subsequent forest fires? *Environmental Research Letters*, 11:045008. doi:10.1088/1748-9326/11/4/045008

R. Economic Analysis

The EA or EIS should include a U.S. Forest Service cost estimate for any commercial tree removal associated with this project. Such an estimate should include administrative costs pertaining to analysis and objections, 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 or stewardship contract, and the total volume of the timber sale (in board feet of sawtimber and/or tons of biomass).

S. Pile Burning and Prescribed Burning

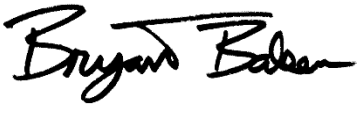
Pile burning may cause patches of extreme soil heating to the point where soil characteristics are changed. The EA or EIS should disclose the size and location of these patches across the Project Area. Piles result in heavy, localized impacts to soil quality. The EA or EIS should also evaluate the impacts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

T. Impacts to Recreation Sites and Activities

As the Project Area includes two campgrounds, three trailheads, and three trails, the EA or EIS needs to examine how the Proposed Action will affect these recreation resources. Furthermore, the Project Area is well-known to be a popular climbing destination. The climbing community has expressed concern about how the use of heavy equipment and the removal of shade trees may affect boulders used for climbing. The EA or EIS should examine how the Proposed Action and alternatives would affect this aspect of the recreational value of the Project Area.

Thank you for this opportunity to provide comments on the Project. Please provide us with all future public notices, environmental documents, and decision documents related to this project.

Sincerely,



Bryant Baker, MS
Conservation Director
Los Padres ForestWatch
PO Box 831
Santa Barbara, CA 93102

Richard Halsey, MS
Director
California Chaparral Institute
PO Box 545
Escondido, CA 92033

Justin Augustine, JD
Senior Attorney
Center for Biological Diversity
1212 Broadway St., #800
Oakland, CA 94612

Chad Hanson, PhD
Executive Director
John Muir Project of Earth Island Institute
PO Box 897
Big Bear City, CA 92314

Alicia Cordero
First Nations Program Officer
Wishtoyo Chumash Foundation
9452 Telephone Rd. #432
Ventura, CA 93004

Mati Waiya
Executive Director
Wishtoyo Chumash Foundation
9452 Telephone Rd. #432
Ventura, CA 93004

Tables and Figures

Figure 1

Graph from Hanson and Odion (2016) depicting the relationship between tree DBH and tree age for dominant and co-dominant trees in ponderosa/Jeffrey pine (yellow pine) forests and mixed-conifer forests on the west side of the central and southern Sierra Nevada. The red line (added for illustrative purposes here) approximately depicts 24" DBH. Trees at or below that line are often over 200 years old. As stated in Section 1.A of this letter, the growing conditions are likely poorer in the Project Area compared to sites from which the data below were collected, meaning that trees in the Project Area may be older relative to their diameter.

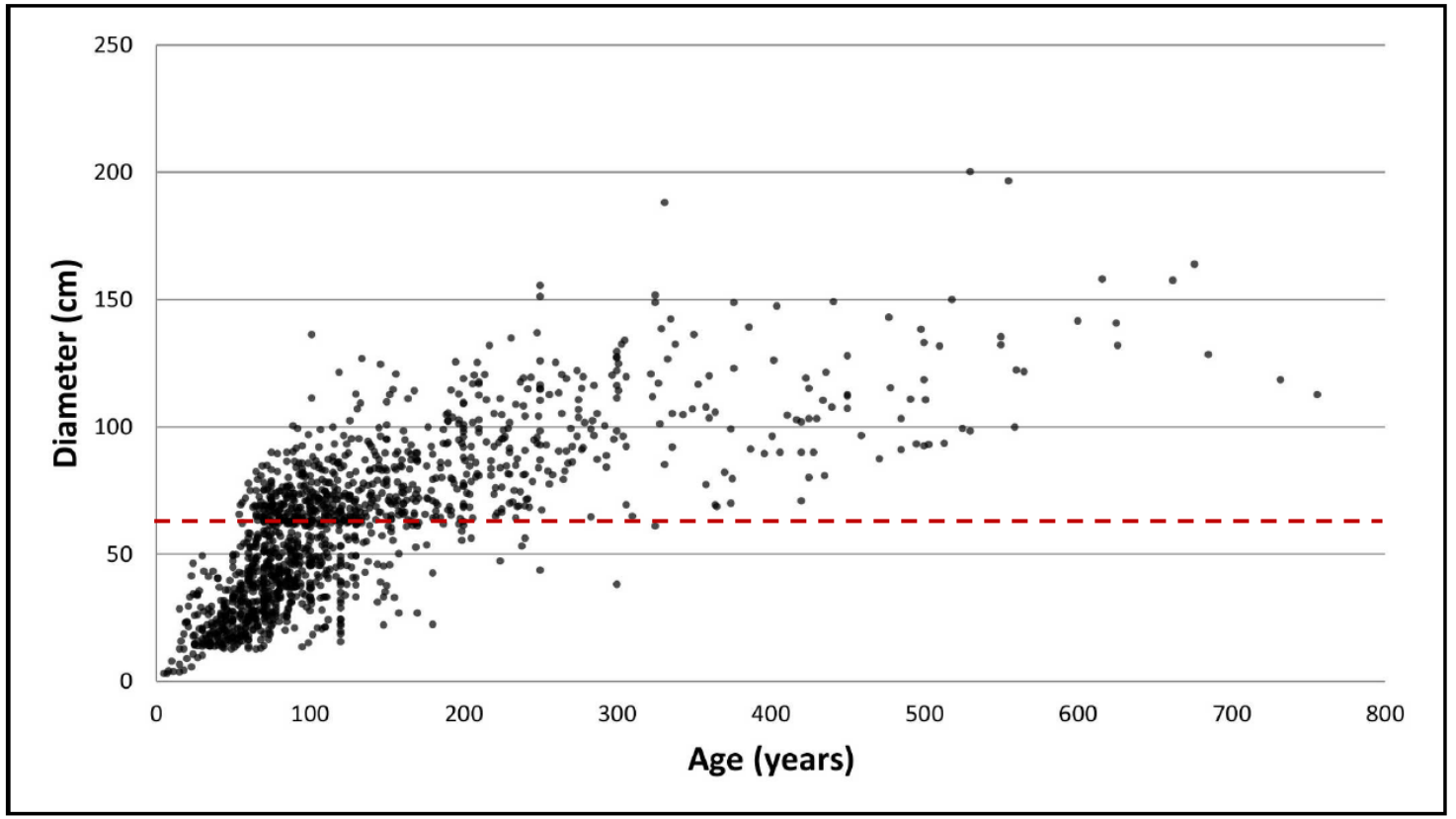


Figure 2

The species of dwarf mistletoe (*Arceuthobium campylopodum*) found in the Project Area, here seen on a healthy Jeffrey pine (*P. jeffreyi*) within the Project Area. Arrows are pointing to *A. campylopodum* individuals on various branches of the tree.

Figure 3

Previously recorded fires within the 2016 Pine Fire perimeter. Data obtained from the FRAP database (Cal Fire).

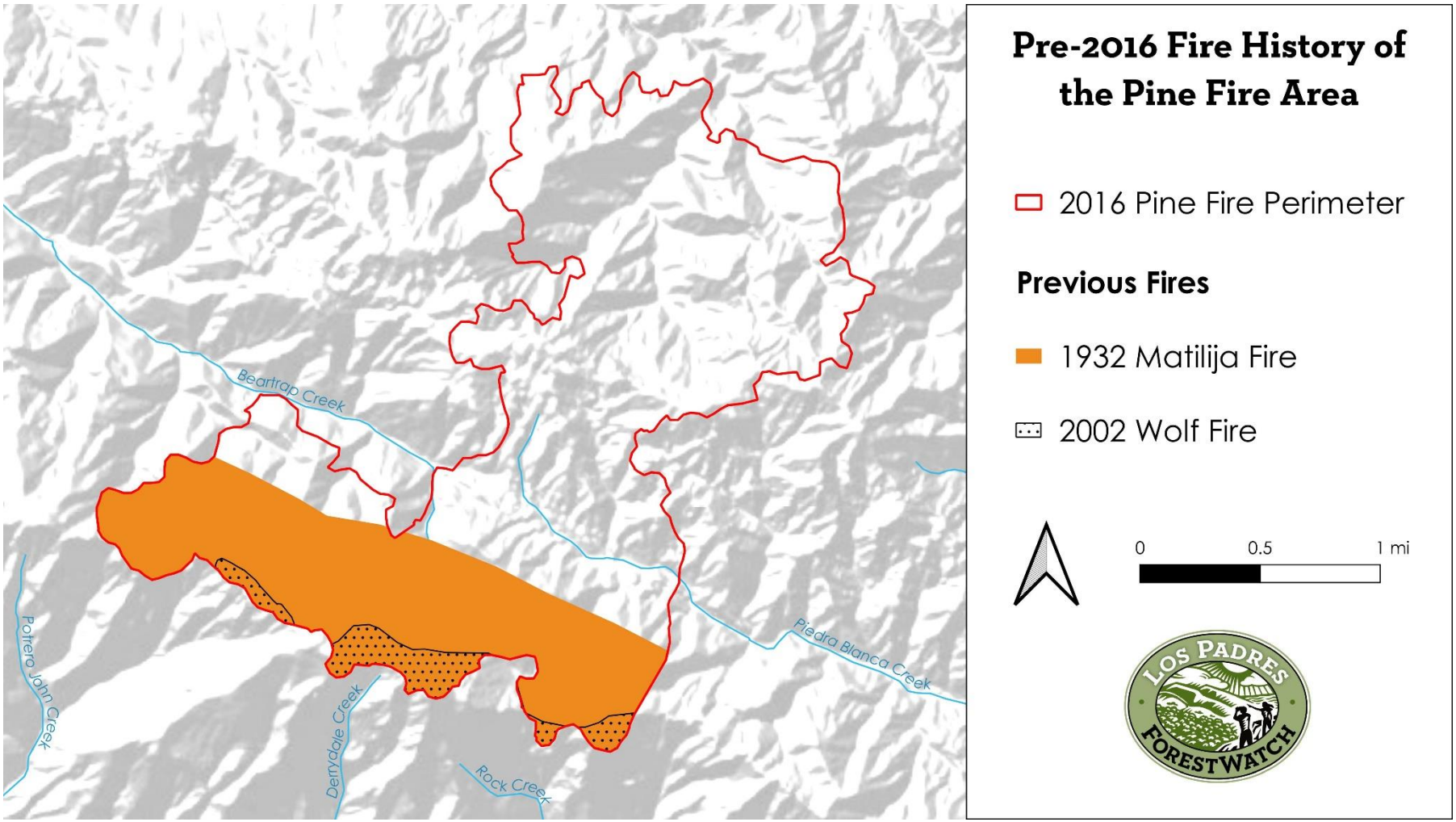


Figure 4

Fire severity distribution of the 2016 Pine Fire. Data obtained from the multi-agency MTBS program.

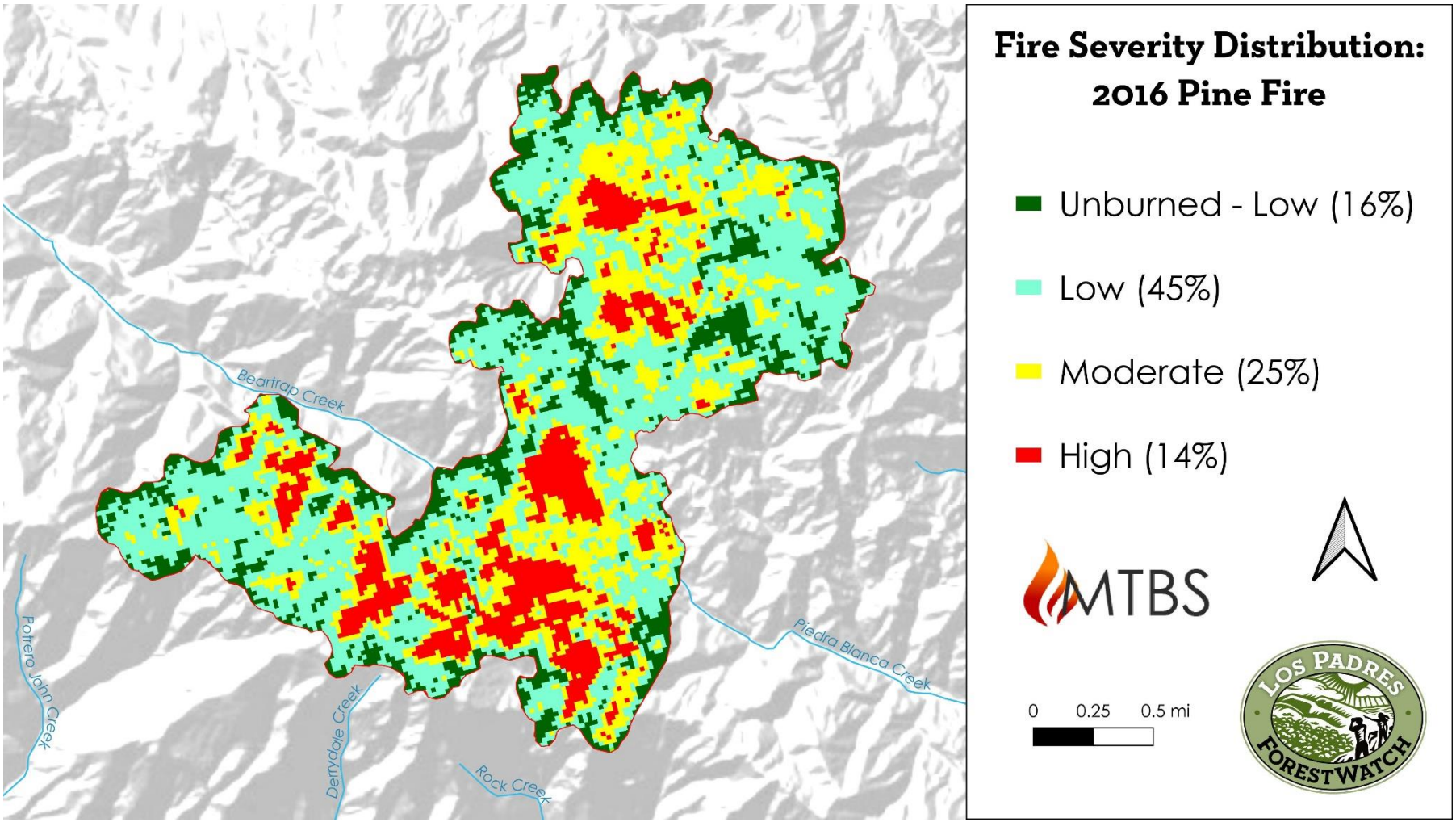


Figure 5

Vegetation type distribution of the area burned during the 2016 Pine Fire. Data obtained from the CALVEG dataset, which is crosswalked with the CWHR. Vegetation types based on broad-level CWHR classifications.

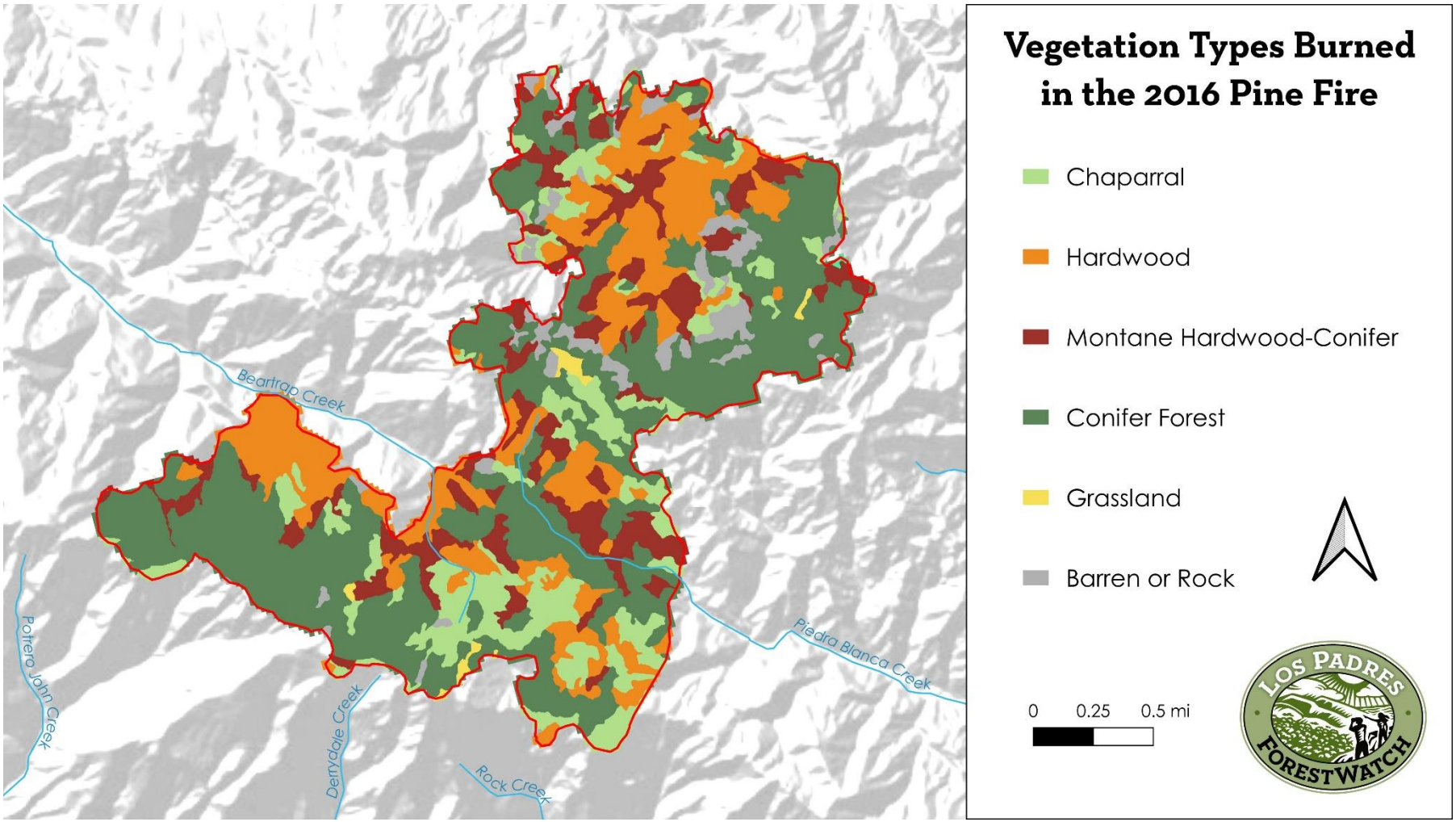


Figure 6

Vegetation type distribution of the areas that burned at high severity during the 2016 Pine Fire. Vegetation data obtained from the CALVEG dataset, which is crosswalked with the CWHR. Vegetation types based on broad-level CWHR classifications. High-severity fire patches delineated using MTBS data.

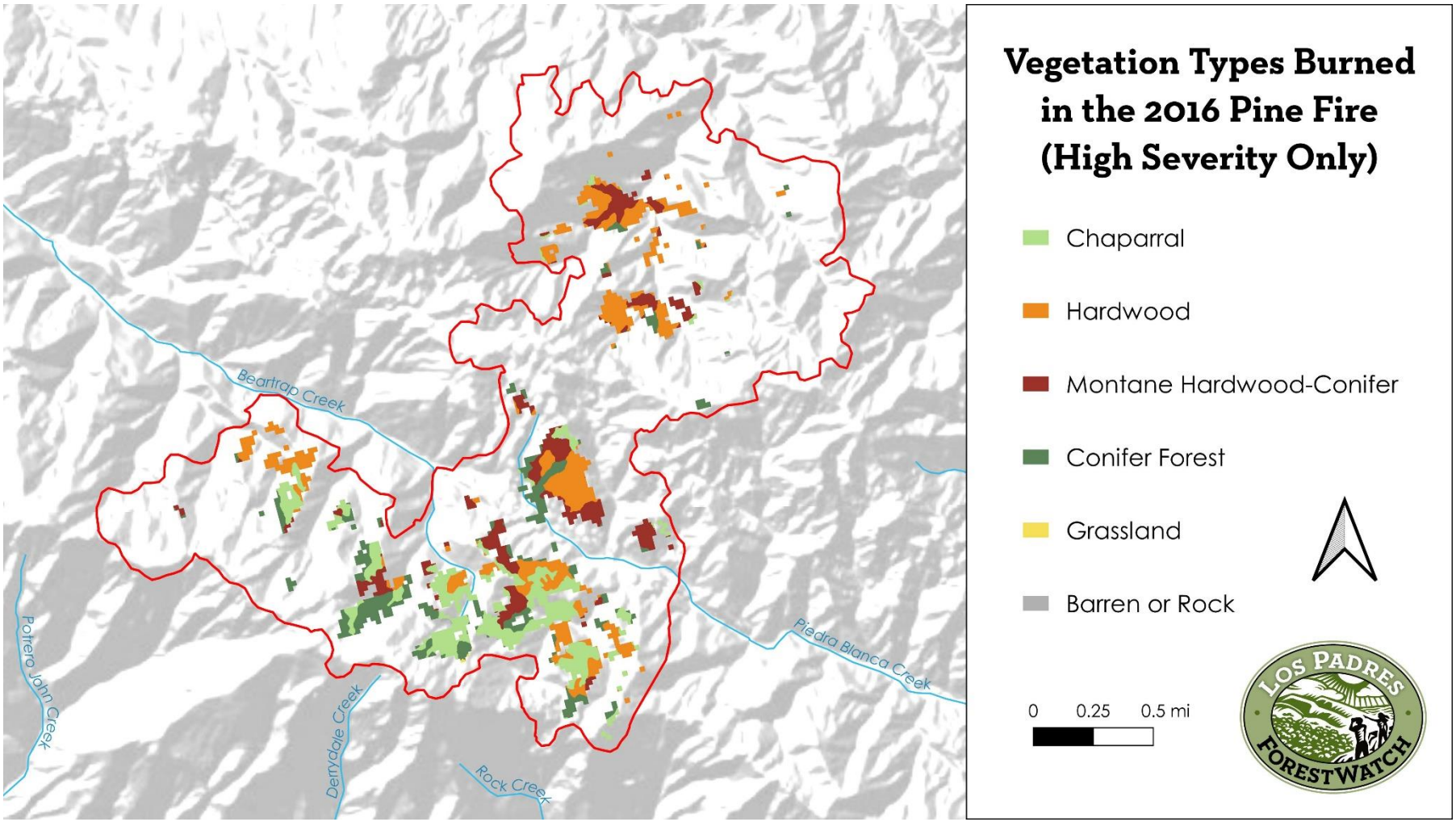


Figure 7

Portion of the Project Area that was bulldozed to create a contingency fire line (that was never used for direct suppression) which has undergone type conversion. Rather than native chaparral, which was dominate in this location prior to the mechanical disturbance, it is now dominated by non-native cheatgrass (*B. tectorum*). This and other infested areas are essentially springboards for the species to spread across the Project Area as heavy equipment is used during implementation of the Proposed Action.

Figure 8

Vegetation type distribution of the area in and around the Project Area. Data obtained from the CALVEG dataset, which is crosswalked with the CWHR. Vegetation types based on broad-level CWHR classifications. Plot locations obtained from http://vtm.berkeley.edu.

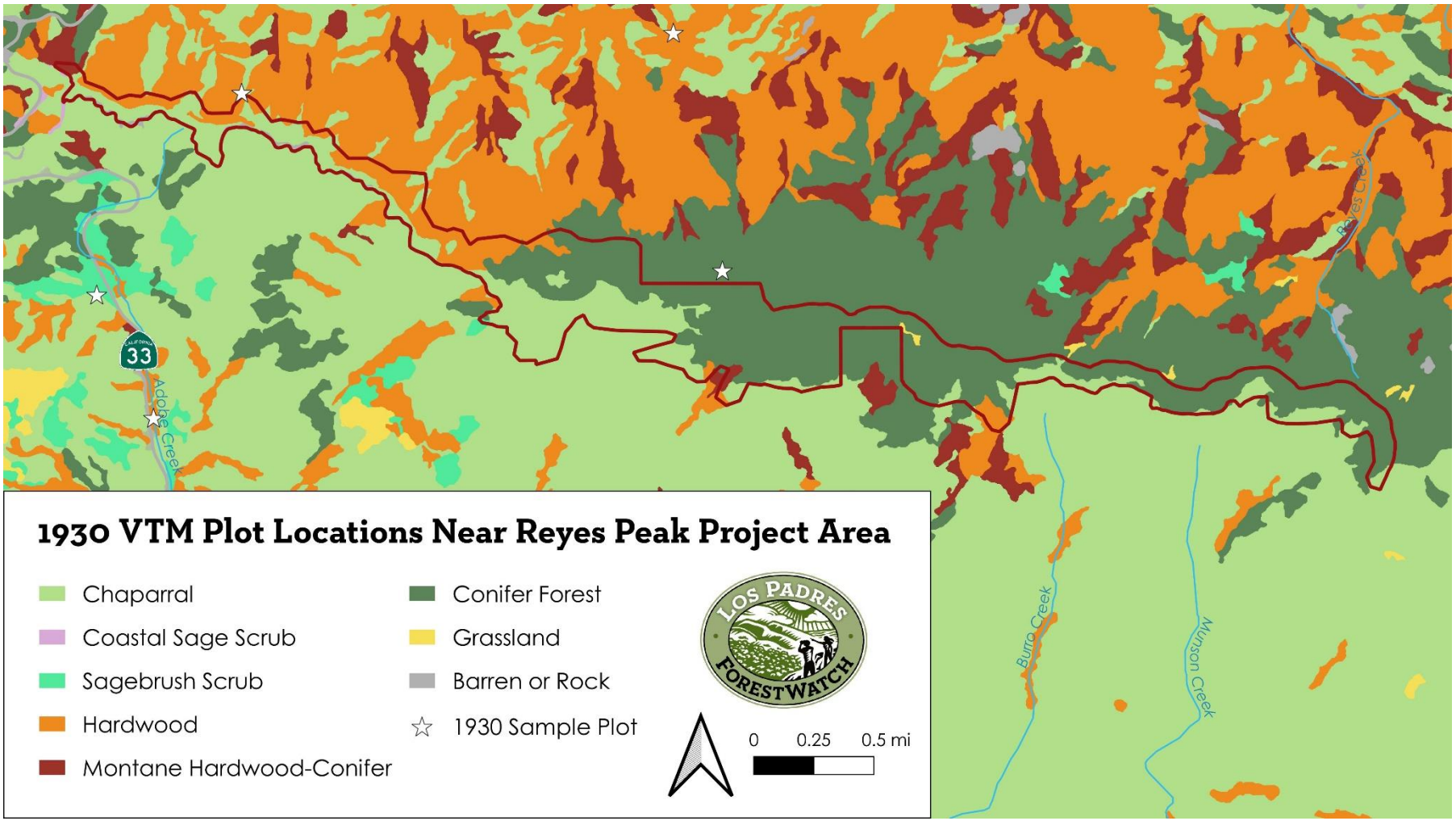


Figure 9

Rectangles shown are the same size as historic VTM plots. These are not actual plots, but instead are used here hypothetically to demonstrate the high likelihood that forest variability can be easily missed with only a single or even a few plots. The top plot would have a high tree density, while the bottom plot would have no live trees and one snag despite occurring just feet away. Satellite image depicts the central portion of the Project Area.

Figure 10

Map depicting future project on Pine Mountain (roughly the same location as the Project Area—the blue area in the bottom left corner of the map) which was included in a Biological Evaluation for another project in August 2018.

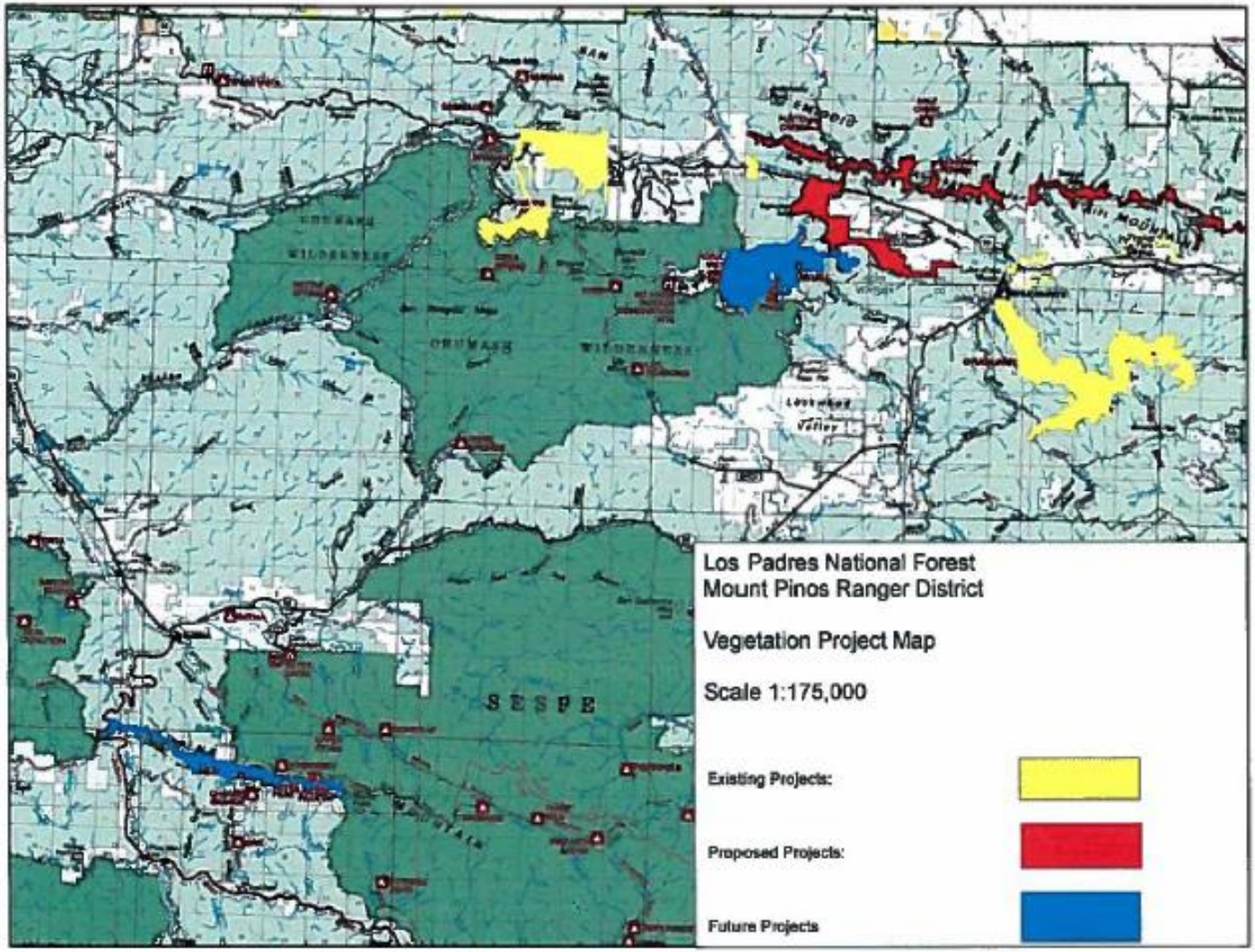


Figure 11

California condor designated critical habitat within the Project Area.

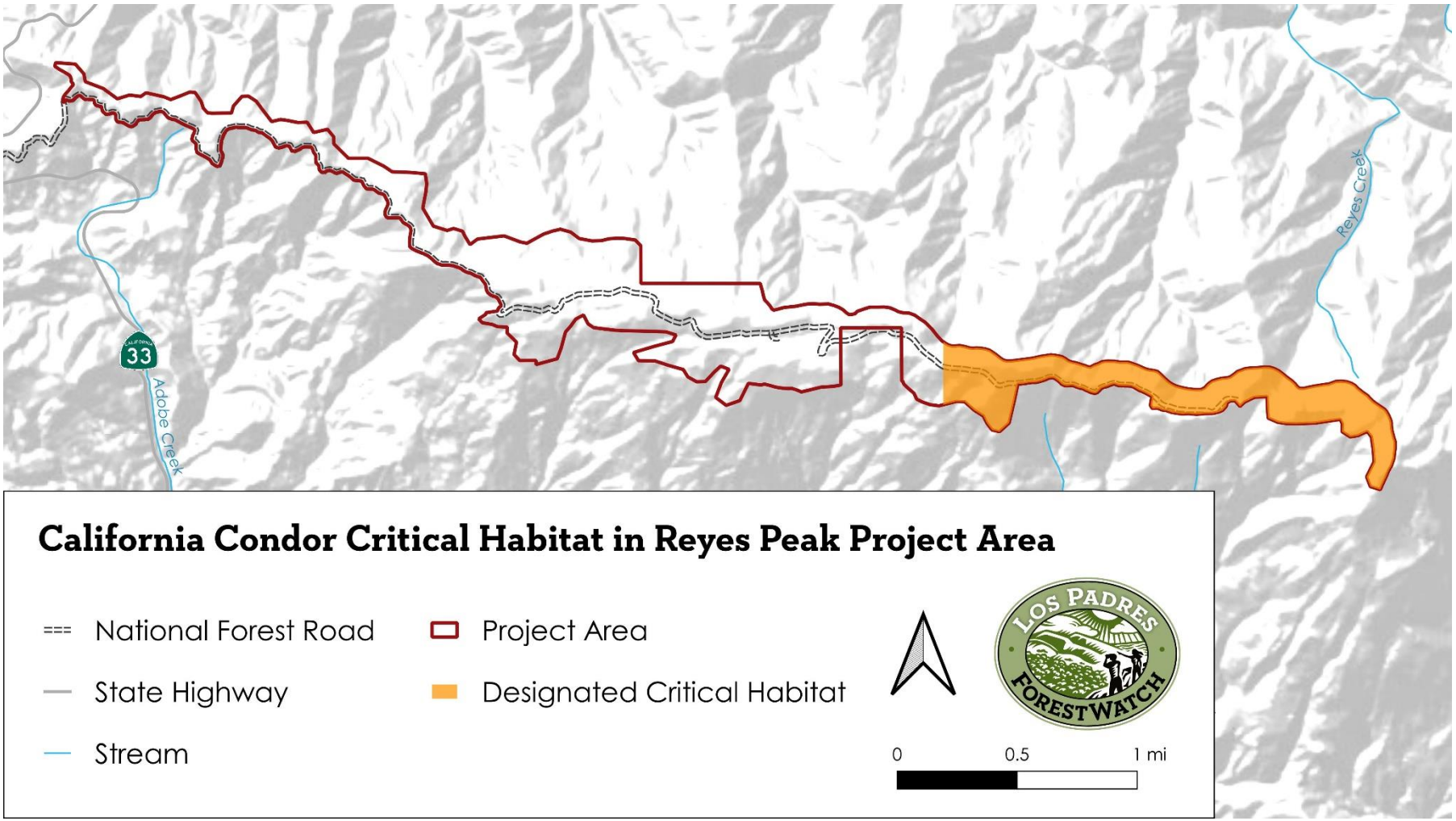


Figure 12

Overlap of Project Area and CSO HRCs (calculated as described in Section 1.F.2). The PAC data were obtained from the California Natural Diversity Database ("CNDDB"; 2020).

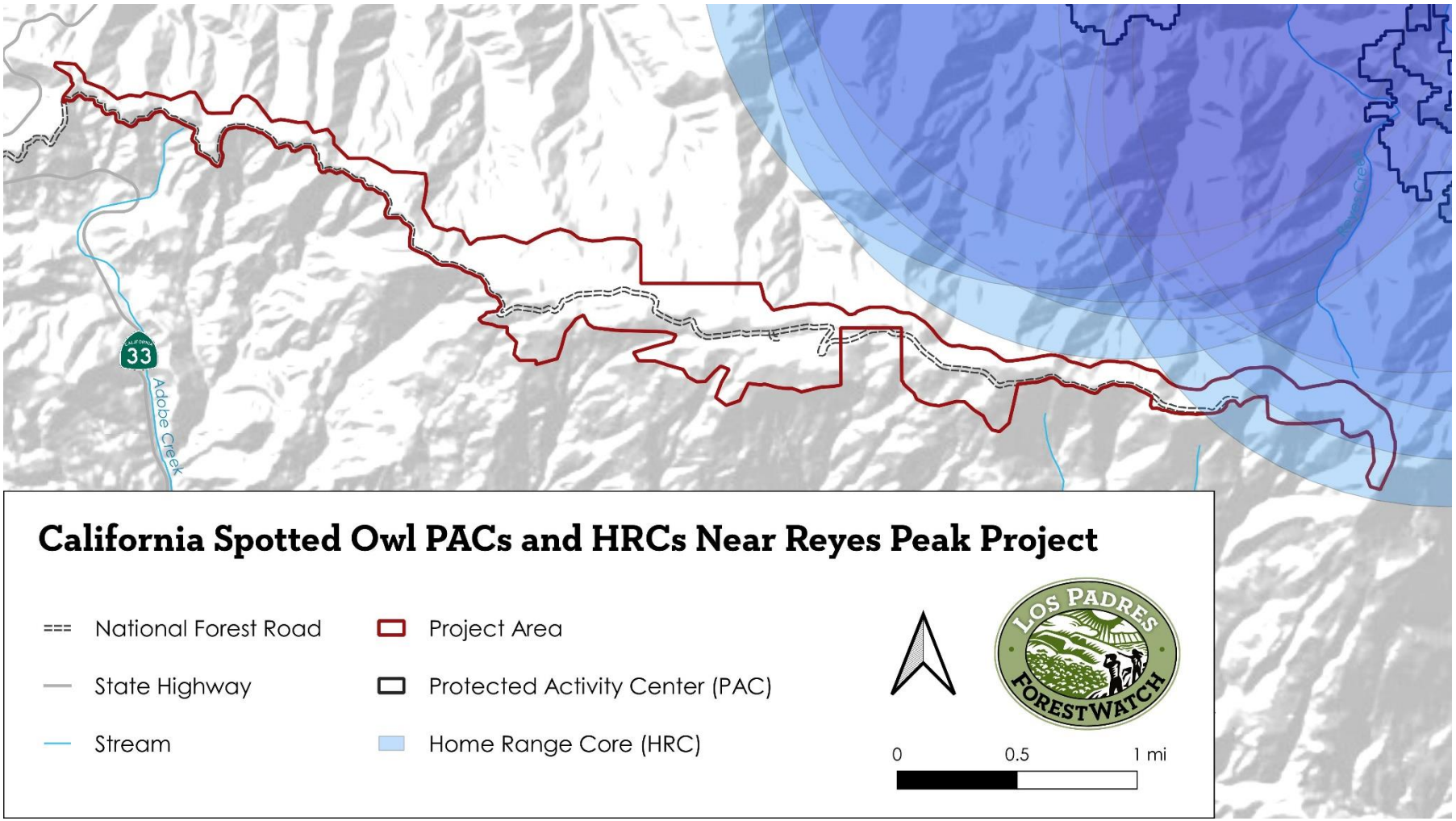


Figure 13

Predicted habitat (and suitability ranking) for CSO in the Project Area. Data obtained from CDFW via the CNDDB (2020).

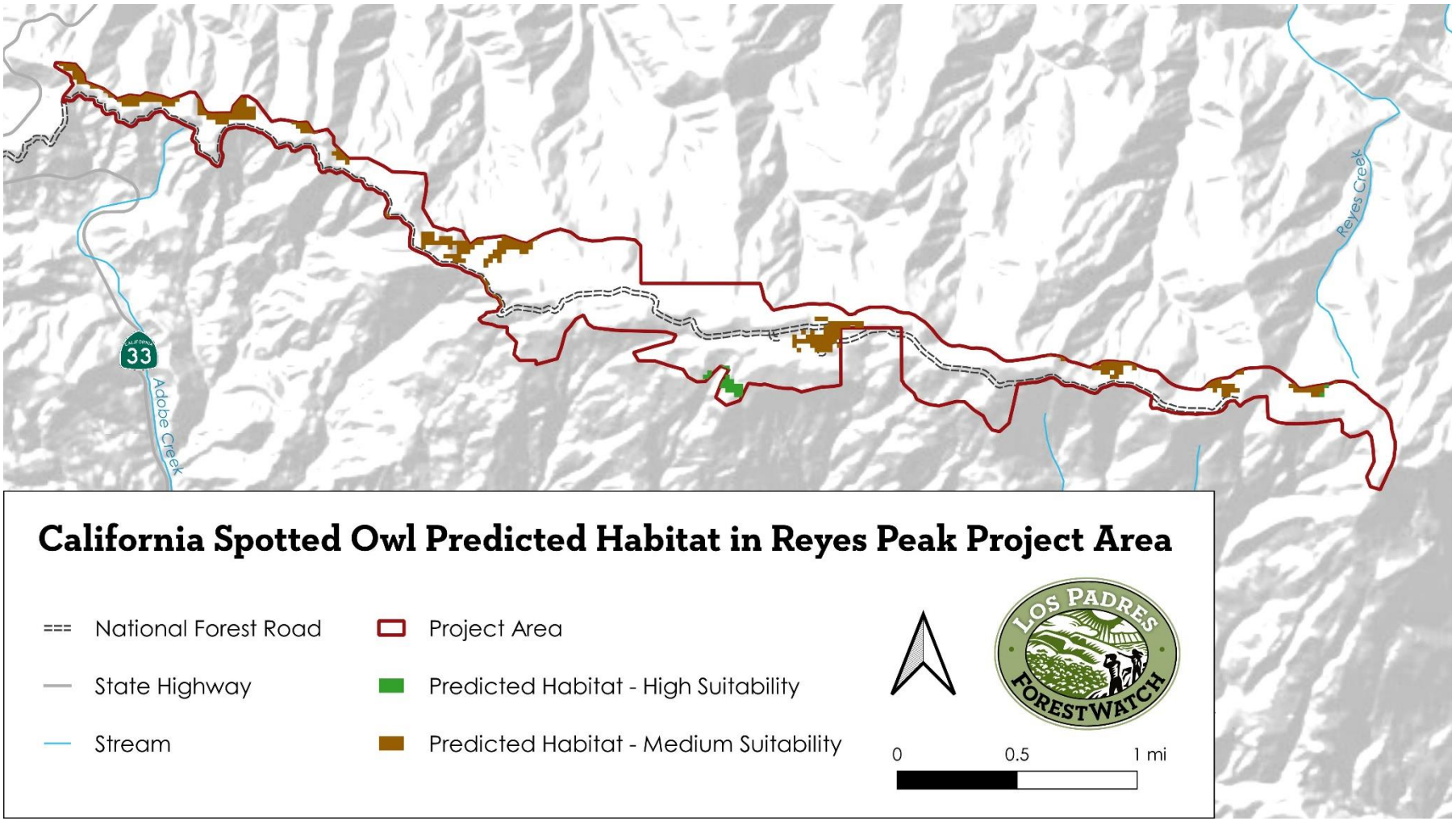


Figure 14

Predicted habitat (and suitability ranking) for northern goshawks in the Project Area. Data obtained from CDFW via the CNDDB (2020).

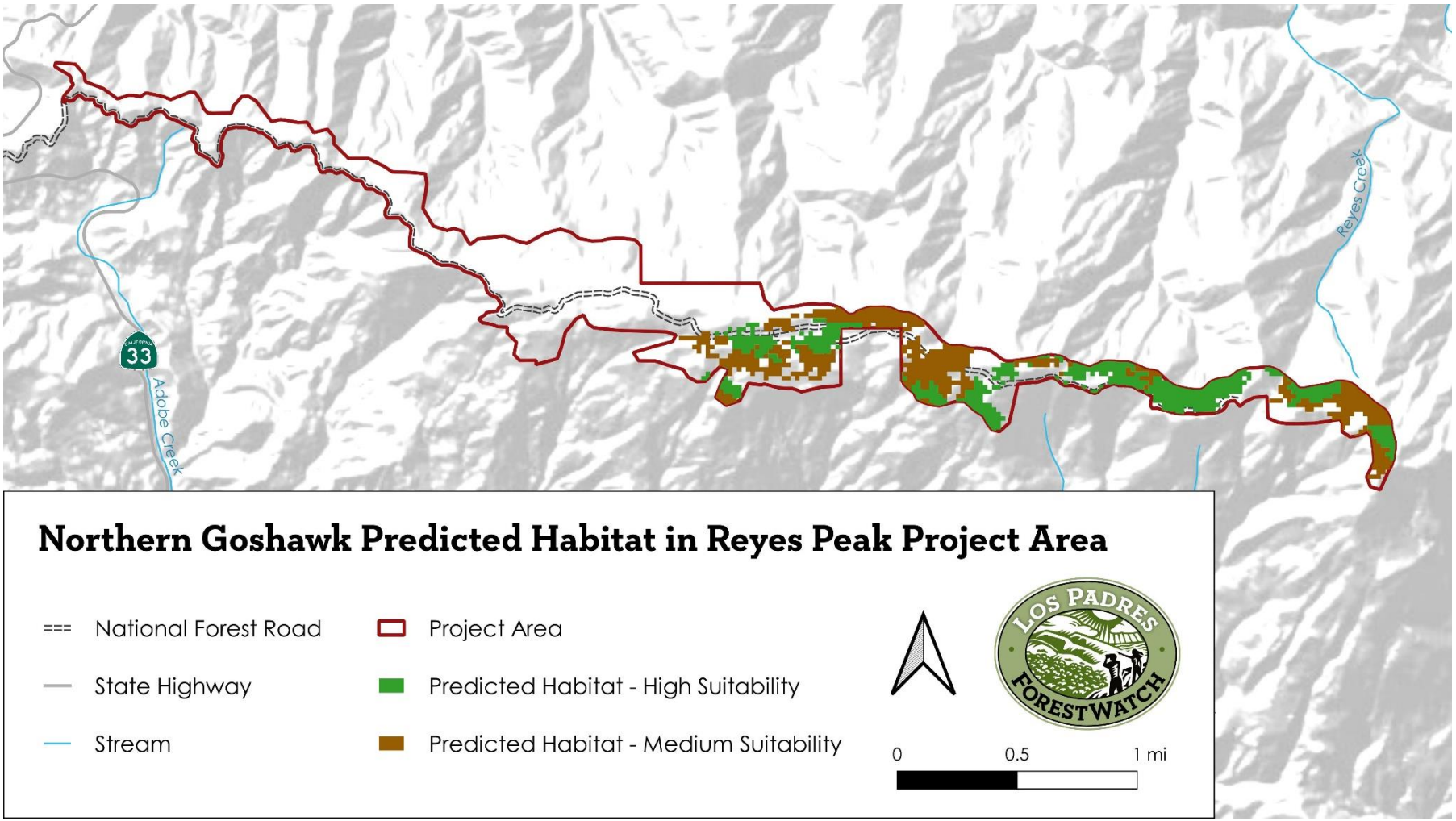


Figure 15

Observation locations for five U.S. Forest Service Sensitive plant species in and around the Project Area. Data obtained from the California Consortium of Herbaria (2020).

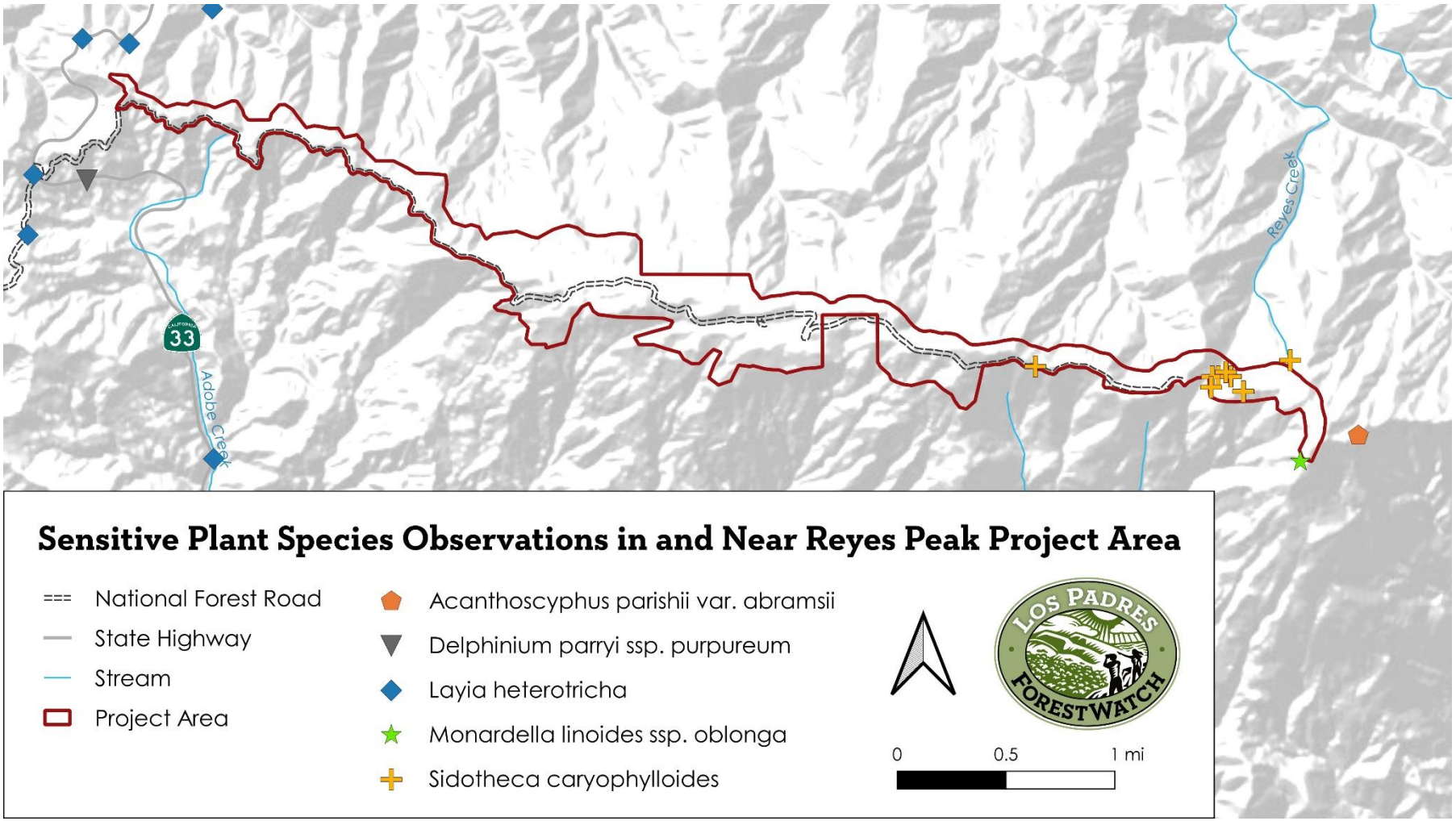


Figure 16

Sespe-Frazier IRA within the Project Area.

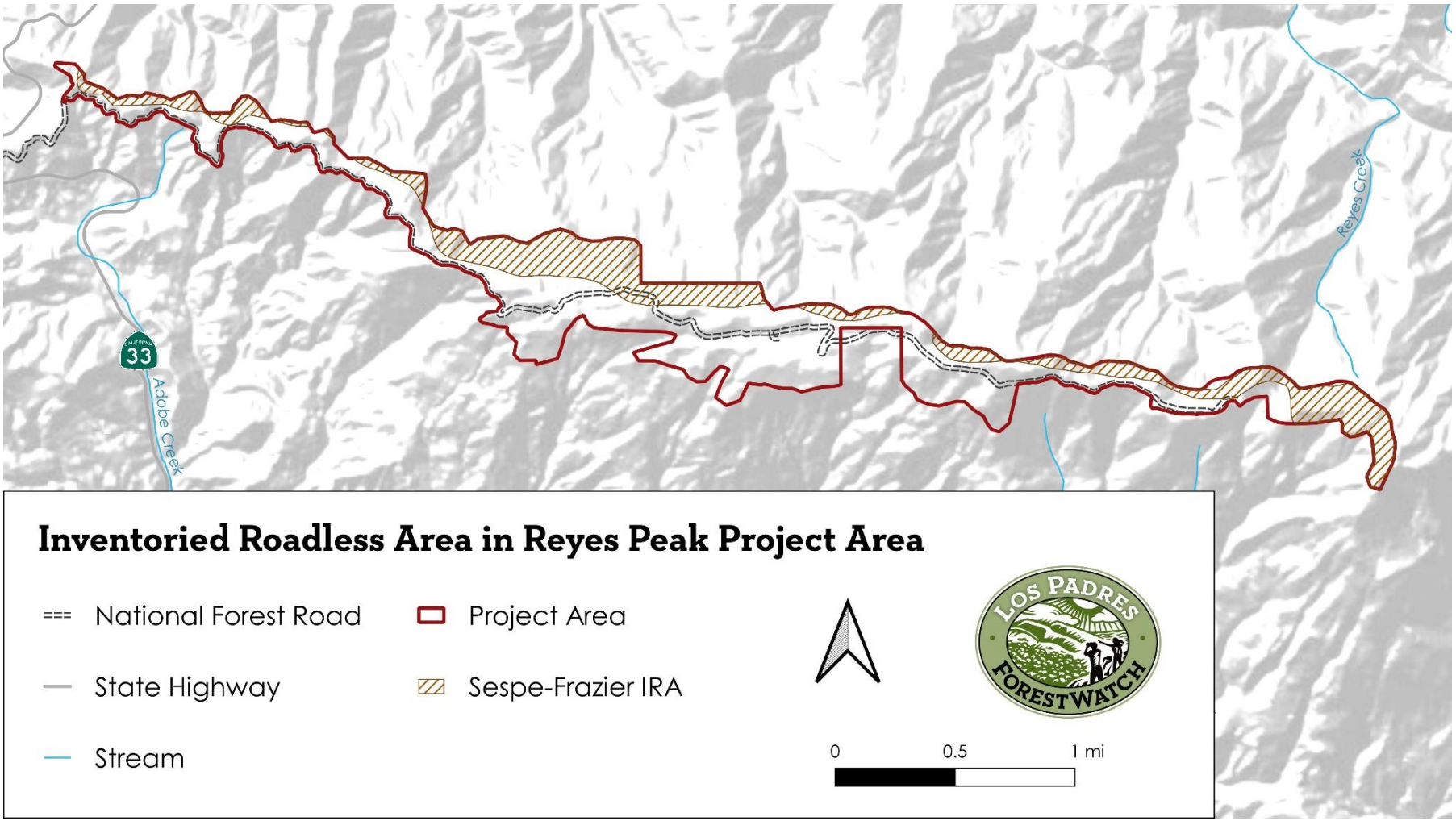


Figure 17

Proposed wilderness additions within the Project Area.

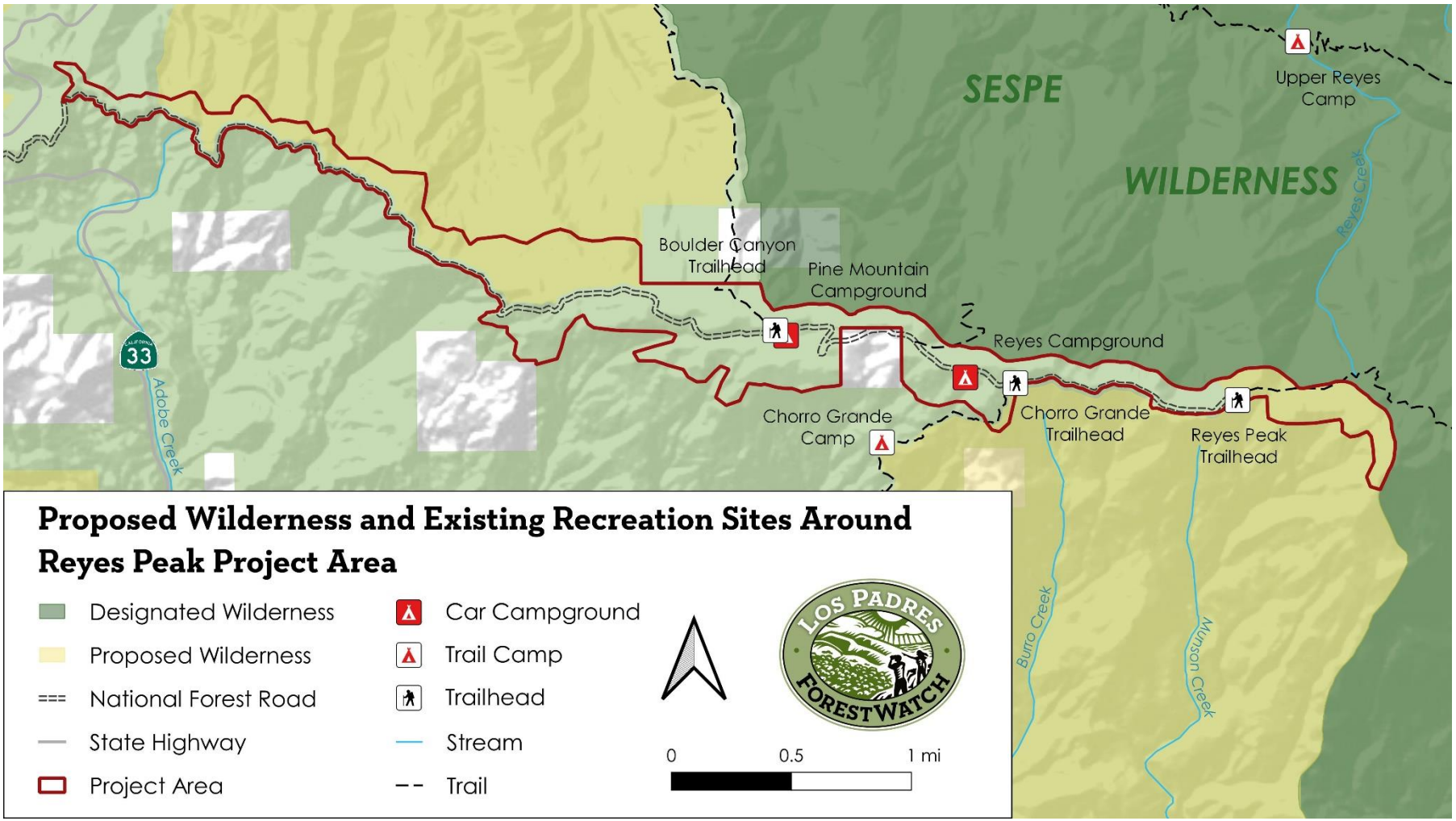


Figure 18

Location of Camp Scheideck fuel break recommended by the 2006 Mt. Pinos CWPP in relation to the Project Area.