



March 3, 2026

Eldorado and Stanislaus National Forest, Attn: MAC Project
100 Forni Road
Placerville, CA 95667

Submitted electronically via comment portal:

<https://cara.fs2c.usda.gov/Public/CommentInput?project=65796>

Re: Comments on the Draft Environmental Impact Statement for the Mokelumne Amador Calaveras Forest Resilience Project (MAC Project)

ATTACHMENTS:

Attachment A: Spotted Owl Demography Research Summary

Attachment B: Spotted Owl Foraging and Barred Owl Research Summary

Attachment C: Documentation of data sources for Table 2 and Figures 3 and 4, and copies of citations.

To the Project Coordination Team,

We submit the following comments on the DEIS for the Mokelumne Amador Calaveras Forest Resilience Project (“Project”) on the Eldorado and Stanislaus National Forests. The MAC Project proposes a variety of treatments in a roughly 250,000-acre project area. The purposes of the proposed action include reducing safety hazards across public lands, improving and protecting wildlife habitat and biodiversity, and promoting a fire-resilient landscape.

We support land management actions that reduce wildfire risk for people and nature while maintaining and protecting sensitive species and ecosystems. We are especially supportive of

actions that restore the function of beneficial fire to landscapes, since it is through this natural disturbance process that resilience will be restored and biodiversity conserved. To this end, we very much appreciate the inclusion of prescribed fire in the proposed action over much of the project area and that this also includes some areas with prescribed fire as the first entry. We are concerned, however, that the proposed action as currently described does not strike the right balance between protecting sensitive resources and logging. We raised the majority of the issues below during scoping, but few changes were made to the PA or the DEIS to address them.

We are also concerned that the Forest Service has abandoned the collaborative relationship with the Amador Calaveras Consensus Group (ACCG). We and other partners had been working collaboratively with the Upper Mokelumne River Watershed Authority (UMRWA) and the Forest Service to develop an alternative that could be supported by ACCG. That effort was abandoned by the Forest Service in the latter part of 2025. Further, we object to the arbitrarily reduced amount of time given to the public to review the DEIS and project file that includes over 26 separate documents some of which are over 100 pages in length. Fourteen days is not enough time to review, evaluate and develop comments on such a massive project file. We also note that collaborative members asked for a one-week time extension to the comment period due to an extreme storm and extensive power outages that were experienced in the first days of the comment period. This request was denied by your agency. We view the actions of the Forest Service to abandon the collaborative process, to severely truncate the public review timeframe, and to disregard local power outages as disrespecting the engagement of the public in planning for this project. We are aware that the Forest Service does not have the capacity (i.e., personnel or funding) to complete projects such as this one and will rely on partners and state and private funding to carry it out. As we move forward, we will not support projects like MAC II that disrespect public engagement and will recommend that it not be funded.

We identify many deficiencies in the MAC DEIS in our letter and hereby respectfully request the following remedies:

- withdraw and revise the DEIS;
- address the significant scientific and legal shortcomings identified in these comments;
- complete the required monitoring of MAC spotted owl and impacts to owls from the Forest Service's new habitat management approach which involves removal of long-standing protections for the spotted owl and its breeding habitat (monitoring impacts to owl of this plan amendment is required in both the current 2004 forest plan and the 2019 California spotted owl conservation strategy, but is not adopted in DEIS);
- retain all high quality spotted owl habitat throughout the project area (CWHR 6, 5D);
- design projects to avoid reducing pre-existing canopy cover by more than 25 percent (measured in absolute terms) within PACs, HRCAs, and territories as per Ng et al. (2025);
- update the required management indicator species (MIS) bioregional monitoring so that it no longer relies on an outdated 2010 report; and
- provide public review of a revised DEIS and spotted owl monitoring plans.

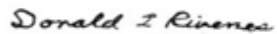
Thank you for considering our comments. Please add each of the parties below to the public notification list.

Sincerely,

A handwritten signature in cursive script that reads "Craig Thomas". The signature is written in black ink on a white background.

Craig Thomas, Director
The Fire Restoration Group and acting
Director of Sierra Forest Legacy
craigthomas068@gmail.com
(916) 708-9409

Susan Britting, Ph. D.
Consultant
Sierra Forest Legacy
(530) 919-9844
britting@earthlink.net

A handwritten signature in cursive script that reads "Donald I. Rivenes". The signature is written in black ink on a white background.

Don Rivenes
Conservation Chair
Sierra Foothills Audubon Society
rivenes@sbcglobal.net

I. General Comments

The MAC project, considered individually and as part of the serial use of project Specific Forest Plan Amendments (PSFPAs), will have a significant adverse impact on the California spotted owl (CSO, “spotted owl” or “owl”), both locally and throughout its Sierra Nevada range. The extensive logging proposed by the MAC project in sensitive habitats, when viable treatment options have been allowable for decades under the 2004 Sierra Nevada Framework to expand fire resilience presents a compounding level of risk to the CSO that is not supported within existing law and regulations.

The MAC project and use of serial PSFPAs fails to consider the impacts to CSO associated with the cumulative application of PSFPAs throughout the Sierra Nevada range of this critically at-risk species.

The US Fish and Wildlife Service proposed listing the CSO as threatened (February 2023) and they are being sued for failure to protect this species in federal court. All demographic population assessments in the past 30-plus years point to dramatic population declines on national forest lands (LNF-40%, ENF-50%, Sierra NF-31%) while on the Sequoia-Kings Canyon National Park lands, absent historic logging and with expanded fire use, the California spotted owl (CSO) populations are considered stable or expanding (Gutiérrez et al. 2017).

The Forest Service fails to account for the past management decisions that have a great deal to do with the declining population viability of the spotted owl population. Even the Forest Service, in its March 2011 Leadership Intent document, called out “fire exclusion over many decades, in conjunction with other management choices” as the cause for the current instability. It recommended to, “ensure that vegetation and fire management decisions are grounded in concern for biodiversity and ecological process both before and after disturbances like fire.”

The Forest Service has failed to utilize the existing authorities to treat and restore important spotted owl habitat using small tree thinning and prescribed fire for over 30 years. While remarkable resilience could have been achieved restoring beneficial fire, the agency never made any significant effort to build resilience in PAC habitat.

Much of this illegal logging pressure is driven by the current administration’s chaotic agenda to ramp up logging on national forest lands. We have personally witnessed an unfortunate “log or be fired” agenda, so stated at a national forest leaders meeting in 2025.

While uncharacteristic wildfire is an ongoing threat, so is this illegal effort to expand logging in these critical spotted owl habitat areas.

II. Overview of Recent Spotted Owl Conservation Concerns

The University of Wisconsin has conducted a 30-year California spotted owl (CSO) demography study in the Sierra Nevada. Researchers measured spotted owl populations in four separate study sites (see Attachment A research summary). They found that forests with dense canopy cover (greater than 70%) and medium to large (24-inch diameter) trees were the top-ranked models for spotted owl survival and territory colonization rates and were also the lowest ranked for territory extinction (Id.). California spotted owls' ability to keep living amidst logging and other disturbances (owl territory occupancy) was closely linked to canopy cover, with more spotted owls living in the 50–69% canopy cover classes than the 40–49% canopy cover class (Id.). Owls did not live in forests with less than 40% canopy cover (Id.). This body of research is important because the MAC project proposes reducing canopy cover to 30-50% in occupied spotted owl areas.

California spotted owl populations declined within the demography study areas on the national forest sites: Sierra (31 percent), Lassen (44 percent), and Eldorado (50 percent) (Attachment A; Conner et al. 2016, Tempel et al. 2014b). In contrast, the Sequoia-Kings Canyon National Park (SEKI) population appears to be stable or increasing over the same period.

Differences in population trends between the national forests and the national parks could be related to forest management strategies (Blakesley et al. 2005, Seamans and Gutiérrez 2007, Tempel et al. 2014). For example, the disparity may be related to SEKI's recent extensive and growing use of fire for ecological restoration, while general fire suppression has continued on National Forest System lands (Kilgore and Taylor 1979, van Wagten 2007).

(USDA Forest Service 2019, p. 3).

In response, Sierra Forest Legacy filed a listing petition in 2015 based on evidence of a range-wide spotted owl decline in abundance and occupancy on USFS lands since 2006 (Conner et al. 2013; Tempel and Gutierrez 2013). The petition also highlighted the correlation between reduced canopy cover and reductions in spotted owl colonization and territory abandonment (Seamans and Gutierrez 2007; Stephens et al. 2014; Tempel et al. 2014). It concluded that the USFWS underestimated the impact of logging on spotted owls especially on public lands where population declines were significant.

As a result of the petition and subsequent review by the USFWS, the Sierra Nevada distinct population segment (DPS) of California spotted owl was proposed for listing as Threatened under the Endangered Species Act on February 23, 2023 (USDI Fish and Wildlife Service 2023).

Threats that compel the listing include habitat destruction and modification from logging, high severity wildfire, and climate change (USDI Fish and Wildlife Service 2022, p. iii); however, the Service considered the 2004 Sierra Nevada Forest Plan (SNFPA) as providing some protection to spotted owls:

The existing regulatory mechanisms and conservation measures do not completely ameliorate the negative impacts of fuels reductions and forest management practices to California spotted owls; however, land management direction, including the Sierra Nevada Forest Plan..., includes protective standards and guidelines that must be adhered to while conducting management activities in California spotted owl habitat

(USDI Fish and Wildlife Service 2023).

The USFWS' assumption that the habitat protection for CSO required by the forest plans would be maintained was, however, unwarranted due to the PSFPA now underway, which allow for a much higher level of logging than was previously allowed, thereby threatening hundreds of spotted owl occupied nest areas (PACs) and hundreds of thousands of acres of high-quality habitat for the owl in the Sierra Nevada (Figures 3 and 4).

Our own tracking reveals that since 2022, over 495 California spotted owl nest sites (PACs) have been proposed for logging of medium and large trees using forest plan amendments; many have completed the environmental documentation required by the National Forest Management Act (NFMA) and are already underway. The differences between the existing forest plan direction and the project-specific plan amendments are substantial, including allowing degradation of highest quality nesting and roosting habitat close to nest sites and across the spotted owl's home range and the degradation of suitable habitat to unsuitable¹ across the same geography (Table 1). As discussed below, the plan amendments generally and as applied in this project, result in greater impacts to spotted owls and less conservation for this imperiled species.

¹ Unsuitable habitat is defined as habitat with tree canopy cover less than 40% or with average tree size less than 12" DBH for all cover classes.

Table 1. Comparison of California Spotted Owl Habitat Management in Forest Plans Versus the Proposed Action.

Management Practice	Existing Forest Plans	Proposed Action
Required owl suitable habitat around nest	1,000 acres	At least 400 acres
Logging allowed to degrade the quality of owl nesting habitat	0 acres	9,945 acres
Logging allowed to remove owl nesting habitat (convert habitat to unsuitable)	0 acres	37,971 acres

The California spotted owl would likely benefit from fuel reduction in its habitat because losses from wildfire has increased dramatically (Table 2). This, however, can be done without degrading habitat, contrary to the approach proposed in the 246,750-acre MAC project. Accelerating habitat loss through logging large overstory trees imitates the severe fire disturbance that the USFS claims to prevent. The MAC project serves the spotted owl an eviction notice on the heels of decades of losses.

Table 2. Summary of Spotted Owl Nest Areas (PACs, 300 acres) and Territories (400-600 acres) Lost to High Severity Fire During the Creek, North Complex, Caldor and Dixie Fires 2020-2021 (USDA Forest Service 2022c).

Fire	Year	Size (acres)	Percent High Severity	No. PACS	Percent PACs >50% High Severity	No. Territories	Percent Territories >50% High Severity
North Complex	2020	288,787	52.2%	89	48.3%	97	43.3%
Creek	2020	366,400	39.6%	102	42.2%	106	34.9%
Caldor	2021	224,576	40.7%	89	43.8%	93	43.0%
Dixie	2021	848,828	42.6%	168	38.1%	181	31.5%
Total		1,728,590	43.3%	448	42.2%	477	36.9%

III. Need for Bioregional Approach to Planning

The eleven forest plans in the Sierra Nevada were first amended in one decision in 1993 to address, among other things, concerns about the fragmentation of suitable habitat in the bioregion (USDA Forest Service 1993). Specifically, the scientists at the time determined that the small number of “Spotted Owl Habitat Areas” protected under Forest Plans had an unacceptably low likelihood of maintaining the owl population over the next 50 to 100 years "and that such “strategy, culminating in a network of small, relatively isolated ‘islands’ of older forest suitable for breeding by spotted owls and separated by a ‘sea’ of younger, less suitable or unsuitable habitat, [was] not a workable strategy to assure long-term maintenance of spotted

owls.” The Report also identified numerous “Areas of Concern” within the range of California spotted owl related to habitat loss and fragmentation. See USDA Forest Service 1992 and also known as the “CAPSO report.”

This coordinated management effort across the eleven forest was abandoned in 2019 with the issuance by the Regional Office of a strategy to address California spotted owl management (USDA Forest Service 2019). Instead of amending the forest plans with this strategy, each national forest was left to amend their forests plans using PSFPAs. Meanwhile, the regional monitoring of habitat distribution and population status has been largely abandoned. For example, the evaluation of habitat for spotted owl in the bioregion was last updated in 2010 (MIS report, p. 32). See section below on Management Indicator Species (MIS) for additional detail on this topic.

The consequence of this failure to coordinate management and monitoring of spotted owl across its range in the Sierra Nevada is that the current state of habitat fragmentation and the distribution of owls in these areas is not known. This is a concern because wildfire and logging has or intends to fragment suitable habitat and negatively impact spotted owl sites. For example, we know from our review of the environmental documents for the Caldor Fire Restoration Project that over 80,000 acres burned at high severity and substantially reduced tree density and basal area in these areas. This resulted in a reduction in habitat quality on a portion of this area and contributed to the loss of 21% of the spotted owl nest sites within the wildfire boundary (USDA Forest Service 2024a, p. 10). We also know from our review of project documents for the SERAL I and II projects that logging will render unsuitable for the spotted owl over 72,000 acres of habitat (USDA Forest Service 2022b, Table CSO09 and USDA Forest Service 2024c, Table 16, respectively). The SERAL I and II projects are directly adjacent to this project area, yet their impacts on spotted owl habitat are not evaluated in the DEIS. Combined with the 37,000 acres of habitat that this project would render unsuitable (DEIS, Table 16, p. 54), cumulatively logging in these three projects would cause over 100,000 acres to become unsuitable for owls. This exceeds the likely habitat reduction of the adjacent wildfire area, yet its impact on the distribution of California spotted owls and habitat fragmentation is not considered in the DEIS. Substantial habitat fragmentation was what the spotted owl scientists raised as a concern in 1992 (Verner et al. 1992) and the actions pursued by the Forest Service in recent years are exacerbating this.

Beyond this consideration of recent and ongoing fragmentation within the range of California spotted owl, this lack of information on baseline conditions and the effects of management in adjacent project areas impacts this project and environmental compliance in a number of ways that are summarized here and described in greater detail below:

- The impacts to California spotted owls from habitat fragmentation are not adequately evaluated;
- Monitoring and limitations on disturbance required by the forest plans in protected activity centers (PACs) is not followed;
- The findings related the viability of spotted owls required by the National Forest Management Act (NFMA) fail to consider actions that negatively impact suitable habitat; and
- The findings required by the NFMA on Management Indicator Species (MIS) are either not supported by data or supported by data that is from 2010, which does not include an examination for recent fires and logging that has caused more habitat to become unsuitable.

IV. Inappropriate Use of Emergency Situation Determination

This project is using the emergency situation determination (ESD) procedures enacted by the Infrastructure Investment and Jobs Act (IIJA section 40807). This is a misuse of the ESD authority for several reasons.

First, the authority was developed by Congress to address specific emergency situations, defined as “a situation on National Forest System land for which immediate implementation of 1 or more authorized emergency actions is necessary...” (emphasis added). IIJA SEC. 40807(a)(2). “Immediate implementation” of the project is required, yet the analysis for this project states that implementation will take place over 10 or more years. See for example the statement in the biological evaluation that implementation will occur over 10 years (wildlife BE, p. 103). Furthermore, the wildlife biological evaluation (BE) appears to rely on this length of time to implement and not immediate implementation to minimize impacts on California spotted owl (CSO). Not only does the vast size of the project with over 140,000 acres of treatments limit immediate implementation, but the effects analysis depends on delayed implementation to minimize impacts. There are also activities included in the project, such as herbicide use, that are contingent on a future condition of the treated area and are not now ready for “immediate implementation.” Thus, this project does not qualify for ESD because the “immediate implementation” of the actions will not be taken.

Second, the authority requires that any actions covered by the ESD must be consistent with the forest plan. The approximately 140,000 acres of logging in this project do not comply with the existing forest plans for the two national forests. Specifically, the proposed action includes logging practices in habitat for spotted owls that degrade suitable habitat in amounts that are several orders of magnitude greater than allowed by the existing forest plans. For example, the proposed action includes rendering unsuitable 37,071 acres of habitat for spotted owls (DEIS, Table 16, p. 54). The existing forest plans do not allow this extreme degree of habitat degradation.

Third, the proposed action attempts a work-around to achieve compliance with the forest plan by amending the forest plans for this project using a PSFPA. This attempt fails because the Forest Service limits the use of alternatives to a No Action and Proposed Action, as provided by Section 40807, thereby omitting any analysis of an alternative that implements the existing forest plan. The analysis of the existing forest plan is necessary in any amendment process to inform the decision maker and the public of the environmental consequences of changing current management to any new management approach. The DEIS fails to evaluate the impact of implementing the existing forest plans and as a result has no analysis to support the need to change the direction in the existing forest plans. The DEIS also makes various claims about how the amended project will be an improvement, but provides no analysis to support these claims.

There is nothing in IIJA section 40807 to suggest that it was intended to cover activities that would be implemented over a 10-year time frame or that contemplated PSFPAs covering over 140,000 acres of logging. For these reasons and others stated above this project misuses the ESD authority.

V. The U.S. Forest Service Failed to Comply with NEPA in Preparing the MAC DEIS

1) The MAC Project Failed to Take a Hard Look at the Impacts of Plan Amendments to California Spotted Owl

a. Spotted Owl Habitat Loss in Breeding Sites (PACs) Threatens Owl Survival

There are 121 California spotted owl nesting sites (called protected activity centers, or PACs) in the MAC project, each about 300 acres in size (p.55-57). Thinning, a type of logging, is proposed on 19% of owl PACs in the project area (DEIS p.51). The Forest Service proposes to eliminate a significant amount of suitable spotted owl nesting habitat, rendering unsuitable 3,957 acres of habitat in PACs used by owls (DEIS Table 16, p.54). The information in the Project documents shows there is a paucity of breeding habitat in the project area to begin with, and the MAC project makes this condition worse. A total of 38 established PACs will not meet a minimum 50% canopy cover requirement after the project is finished (DEIS Table 18, p.55-57). Yet the DEIS does not acknowledge the well-documented negative consequences for owls of project actions on top of the current poor conditions of many owl nest sites in the project area: the potential for breeding site abandonment, loss of owl occupancy and loss of reproduction (see Attachment A).

The extraordinary scale of logging proposed in this Project is compounded by two neighboring projects that introduce considerable uncertainty regarding the impacts to the spotted owl (USDA Forest Service 2022b). The SERAL 1 and 2 projects on the Stanislaus National Forest will

transform 72,833 acres of suitable owl habitat to unsuitable (USDA Forest Service 2022b and 2024c). The MAC project threatens the persistence of spotted owls in this landscape at a time when their population decline is well-documented across the Sierra Nevada (see Attachment A). A more cautious approach to California spotted owl management is needed to ensure old forest species resilience to management mistakes and climate extremes.

b. Habitat Loss in Spotted Owl Territories

The MAC project proposes to replace the 1,000-acre spotted owl home range (home range core area (HRCA) comprised of 100% best available owl habitat (USFS 2004), with an arbitrary circle called a territory comprised of 40-60% suitable owl habitat (DEIS p.163, “DC-TERR-01”). The DEIS does not acknowledge the impacts of managing 30-60% less habitat for owls using this forest plan amendment.

There are 125 HRCAs occupied by owls in the MAC project area (DEIS Table 20, p. 63-66). The USFS proposes to render 9,438 acres as unsuitable (Table 16, DEIS p. 54). We are concerned because this extreme habitat loss has been shown to lead to territory extinction and declines in population across the species range (Attachment A) and is not acknowledged in the DEIS.

The DEIS and BE do not examine project impacts to owls from the rendering of suitable habitat to unsuitable. The DEIS emphasizes long-term benefits to spotted owls from logging trees to grow bigger ones for the future (BE, p.105), and logging to reduce fire and drought risk, but these objectives can be accomplished without rendering occupied owl habitat as unsuitable. And there’s discussion of how logging helps owls forage by opening up the canopy (BE p.109-110); although we note that the two main owl prey species do not occur in open forest stands created by the project. The flying squirrel requires closed forest canopy (BE p.104), and woodrat requires a shrub understory (Attachment B research summary), neither of which is provided by the proposed logging.

The DEIS does not explain how owls would persist on the landscape in the short term without 37,071 acres of their habitat until remaining trees grow bigger. The USFS shows the data in tables, but the effects on old forest species is not discussed (DEIS p.54). The agency underestimates project impacts to CSO, not even acknowledging that the CSO population has already been reduced by half in the MAC project area over the past 25 years (Tempel et al. 2014).

c. Impacts from Removal of California Spotted Owl Home Range Core Area Land Designations Not Considered

The existing forest plans direct that suitable spotted owl habitat be provided within 1.5 miles of the activity center in as compact arrangement as possible and identifies the target habitat in descending order of priority (USDA Forest Service 2004, p. 39). Habitat suitability in these areas, called Home Range Core Areas (HRCAs), is to be maintained following certain guidelines to protect large trees structures, snags, down wood, and higher cover preferred by spotted owls while increasing resilience to wildfire and other threats (USDA Forest Service 2004, p. 46).

In our October 25, 2024 MAC public scoping letter, we requested maps of California spotted owl home range core areas (HRCAs), territories, habitats, and additional data. The HRCA locations were not provided in the DEIS, as requested.

Without establishing a science basis, the MAC plan amendment “DES-TERR-02a” replaces the HRCA with a circular territory regardless of its suitability for owls (DEIS p.162). These proposed territory circles even sometimes overlap with rocky outcrops and reservoirs (see Figure 1). There is extensive evidence that spotted owls do not confine their habitat use to circular territories (see for example Jones et al. 2016 and Blakey et al. 2019). These simple 1,000-acre circles around activity centers often do not protect habitat formerly inside HRCAs when it occurs outside an arbitrary circle.

Our own investigation into the MAC project reveals a pattern of logging in formerly protected owl HRCAs resulting in the removal of a considerable amount of owl habitat from the landscape that is not allowable under the existing forest plans, as exemplified in Figure 1. The MAC project uses plan amendments to erase 125 spotted owl HRCAs habitat protections (in blue) thus exposing the habitat to more aggressive logging (Figure 1). This pattern is repeated throughout the project area, rendering 23,676 acres of owl habitat outside PACs and territories no longer suitable for owls because of the low canopy cover and removal of medium and large trees (DEIS Table 16, p.54). Our own analysis shows that most of this owl habitat was protected in the HRCA network. The loss of owl HRCA habitat is the primary outcome of the proposed plan amendment “DES-TERR-02a”, and it is widely applied throughout the project area (Figure 2). The DEIS failed to consider the impact to spotted owls of getting rid of HRCAs as an important land designation and exposing owl habitat to logging that would render it unsuitable.

The HRCA land allocation was considered a key component of spotted owl conservation in the 2001 and 2004 forest plans but is now being abandoned for a measure that protects about half of the important spotted owl habitat that was in the HRCAs (Table 1, Figure 1). The impact of this

change on the spotted owl, its habitat, and old forest habitat used by other sensitive species such as goshawk and marten, is contrary to NEPA and NFMA.

Figure 1. Suitable Owl Habitat in Formerly-protected HRCAs (in Blue), are No Longer Protected by Newly Proposed Owl Territory Circles (red). Formerly-protected Owl Habitat is Highlighted in Yellow. Data from MAC Project Website and Google Earth.

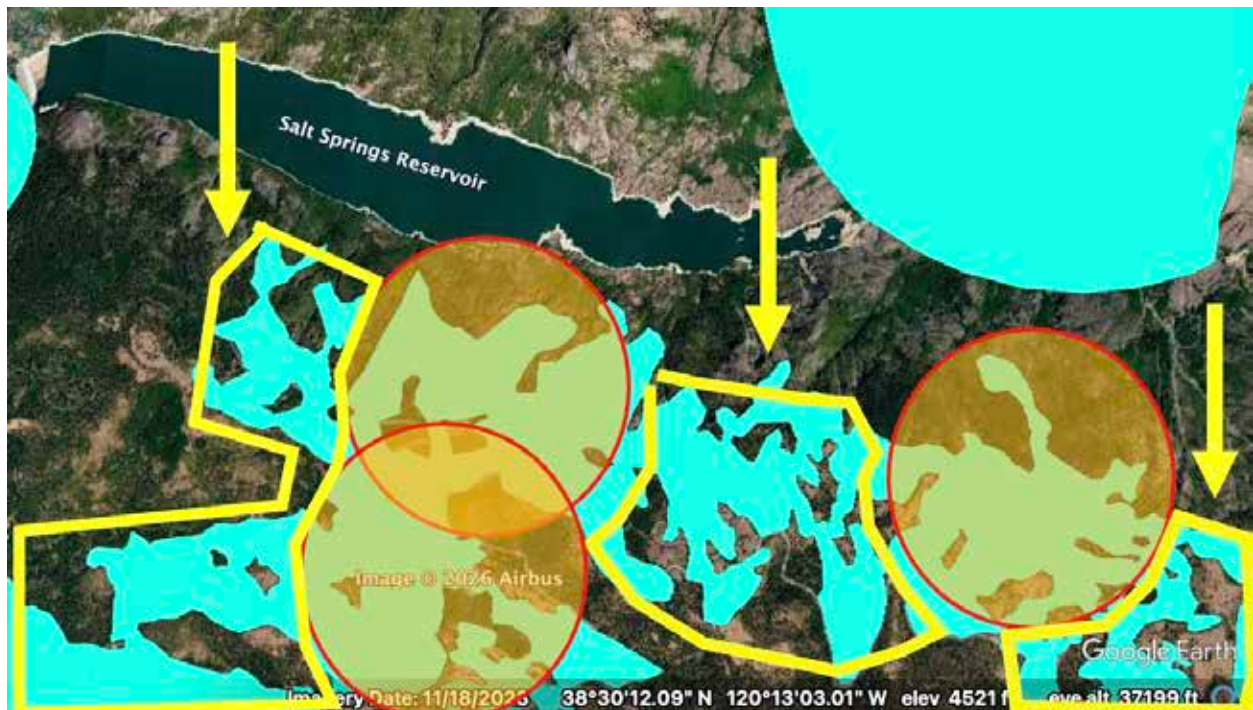
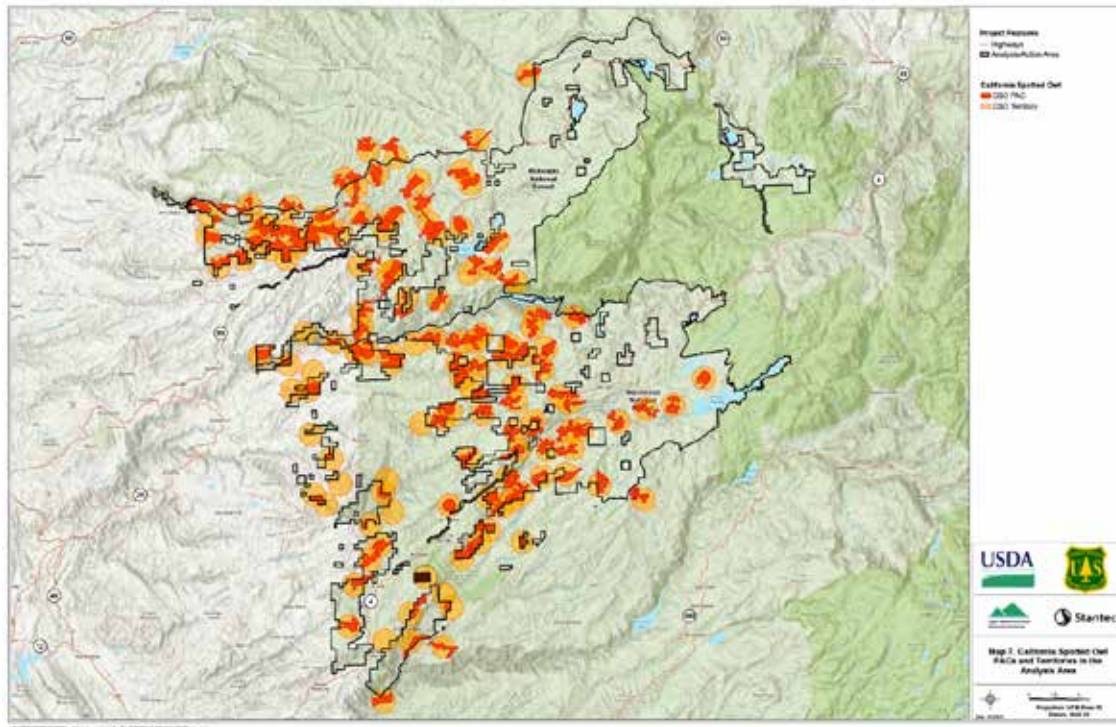


Figure 2. A Total of 125 Spotted Owl HRCAs are Replaced by Circular Territories (in orange) Providing 40-60% Less Owl Habitat than HRCAs. Owl Nest Sites (PACs) Remain on the Landscape (Red Areas).



d. Loss of Highest-quality Nesting Habitat in Owl PACs May Exceed that Allowable in California Spotted Owl Strategy and the Plan Amendment “STD-PAC-01”.

The MAC project proposes to remove best available spotted owl breeding habitat from PACs in the project area beyond that which is allowable in the 2019 California spotted owl strategy or regional guidance on forest plans (USDA Forest Service 2024b). The DEIS reports that in spotted owl PACs “CWHR 6-4D and 4D are converted to 4M or 4P.” (p.53). The negative impacts from the removal of this high quality spotted owl breeding habitat cannot be overstated (Attachment A). This habitat removal is only allowed in fuel breaks and defense zones in the proposed plan amendment “STD-PAC-01”, however fuel breaks overlap with 2,962 acres of PACs and it appears that conversion of spotted owl habitat to 4P (canopy over of 25-40% canopy cover) may be more widespread, covering as much as 3,957 acres in PACs (DEIS Table 16, p.54). This practice outside of fuel breaks and defense zones is contrary to the proposed plan amendment STD-PAC-01.

Further, the BE states that the project is designed to avoid “heavy canopy cover reductions;” However, this is exactly what is occurring when 4D habitat is converted to 4P habitat and canopy cover goes from 80% to 30%. The BE minimizes impacts of the project on spotted owls and their habitat and does not acknowledge the risk of extinction to many known owl territories as a result of the proposed logging (Attachment A).

e. Degradation of Spotted Owl Habitat

The California wildlife habitat relationships system (CWHR) is used by land managers and owl researchers to describe habitats. The highest quality breeding habitat available to spotted owls in California is CWHR 6-5D and 5D because it’s comprised of very large trees and dense canopy (USDA Forest Service 2019; Gutierrez et al. 2017). In Sierra Nevada forests, CWHR 6-5D and 5D is represented by stands of large conifers whose average width is over 24 inches in diameter with a canopy covering 65-100 % of the overstory. Spotted owls require these conditions to live and breed (Bias and Gutierrez 1991; Tempel 2014; Tempel 2016; see Attachment A).

The MAC DEIS predicts the degradation of 6,568 acres of CWHR 6-5D and 5D in spotted owl nest sites (PACs) as a result of proposed logging (DEIS Table 16, p.54). The project will degrade 54% of existing highest quality spotted owl habitat within PACs in the project area.

The MAC project also proposes to degrade 4,953 acres of CWHR 6-5D and 5D spotted owl habitat from logging in territories (Table 16, DEIS p. 54). This represents a downgrading or removal of 68% of highest quality breeding habitat in the MAC territories. As discussed in the section above, the DEIS does not acknowledge the potential for dire short-term consequences to owl persistence in the area from reducing canopy cover in territories by as more than 25% of existing cover as demonstrated by Ng et al. (2025), and reducing cover below 70% as demonstrated by various scientists (Seamans and Gutierrez 2005; Tempel et al. 2014; Tempel et al. 2016). These important spotted owl research findings are not applied to the project design or effects analysis.

2) The Project’s Cumulative Impact Analysis is Inadequate.

a. The EIS Does Not Assess Cumulative Impacts to CSO at the Proper Scale

The DEIS adopts an assessment area for measuring cumulative impacts on CSO (California spotted owl) that is limited to the project area. This impact area is too small to adequately consider the cumulative impacts to CSO that are occurring right now at a regional scale.

The Council on Environmental Quality (CEQ) provides guidance on completing cumulative effects analyses to satisfy the requirements of NEPA (Council on Environmental Quality 1997).

This expert-agency that oversees the implementation of NEPA states that the area used in a NEPA review used to assess cumulative effects (the "impact area") may be different in size among the affected resources and is generally larger than the project area. Suggested geographic areas to consider for wildlife include "species habitat or ecosystem" and "total range of affected population units." (Council on Environmental Quality 1997, Table 2-2, p. 15).

The Project in this case is proposed to be approved as a PSFPA, which allows the Project to conduct much more aggressive treatments in CSO habitat than would be allowed under the existing forest plans Framework, including in PACs and home range core areas, as discussed above. Meanwhile recent fires have drastically altered the environmental baseline landscape for CSO, by potentially eliminating thousands of acres of high quality owl habitat -- including nesting sites in PACs-- throughout the CSO's range in the Sierra Nevada.

These factors are depicted below in Figures 3 and 4, which show that recent PSFPA projects will render almost 200,000 acres of CSO habitat in the Sierra unsuitable and that major fires with high burn intensity have recently occurred in the areas where the greatest amount of logging has or is proposed to occur.

Figure 3. Locations of Projects Planning Vegetation Treatments that will Reduce Habits for California Spotted Owl to Unsuitable in Relation to High Severity Fire and Habitat Suitability. High Severity Fire and Habitat Suitability Taken from USDA Forest Service (2022c).

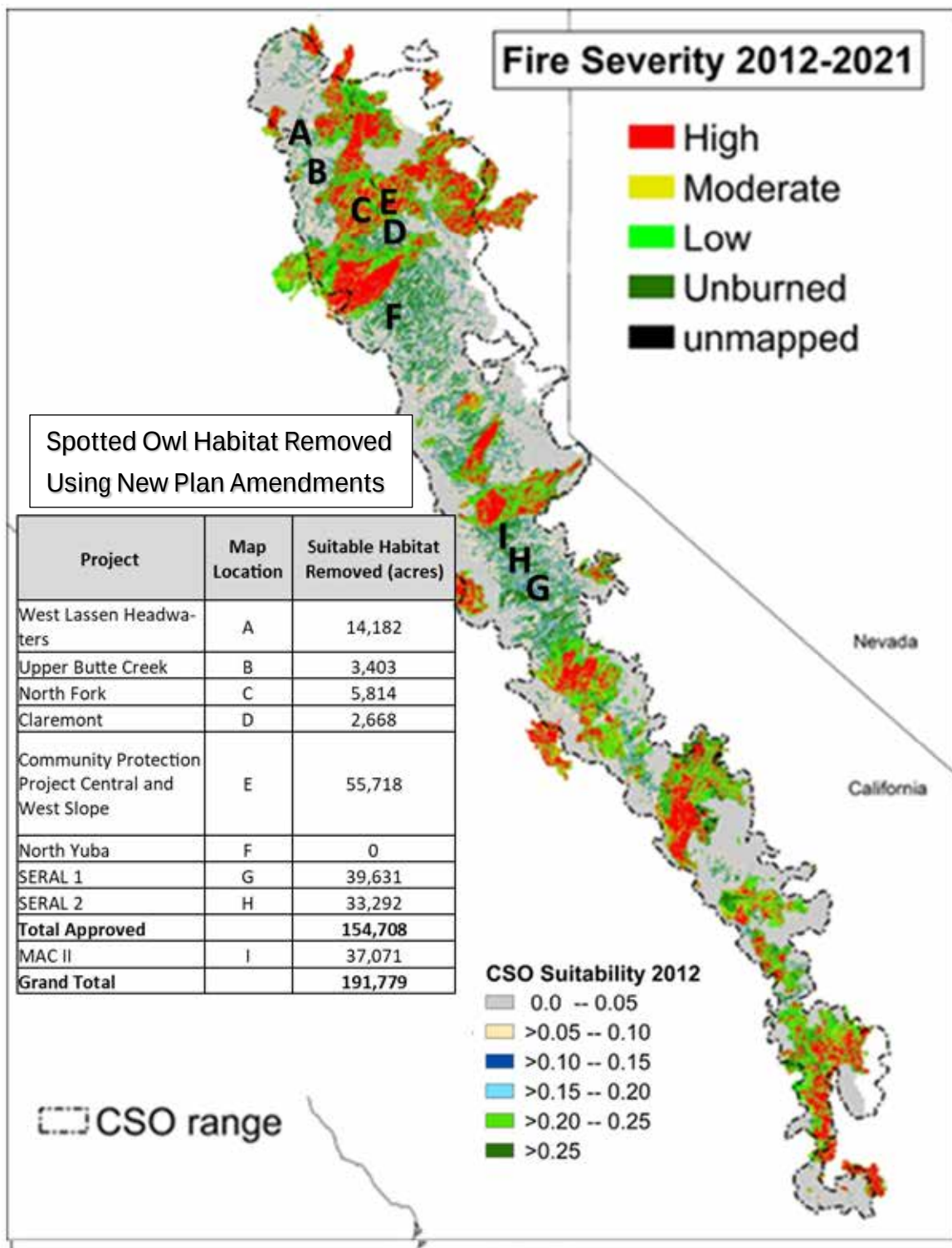
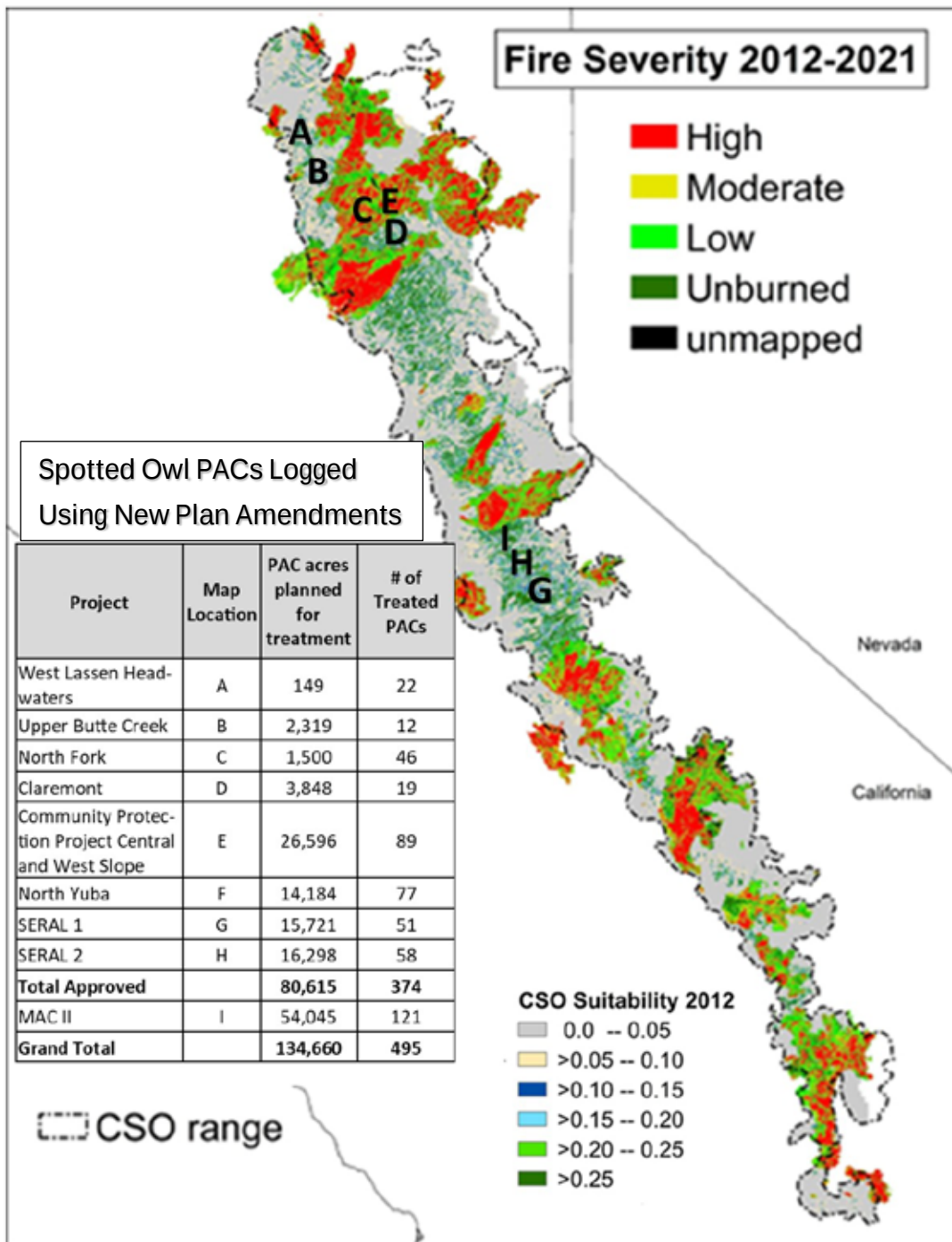


Figure 4. Locations of Projects Planning Vegetation Treatments in Protected Activity Centers (PACs) in Relation to High Severity Fire and Habitat Suitability. High Severity Fire and Habitat Suitability Taken from USDA Forest Service (2022c). PAC Treatment Data Collected from Project Records. See Appendix C for Details on Data Sources.



Figures 3 and 4 demonstrate the need for a broader cumulative impact assessment than simply the project area for this Project. This is shown by the Forest Service's planning process in the 1990s, culminating in the adoption of the 2001 and 2004 Forest Plan Amendments (Framework), which recognized that a cumulative impact analysis for CSO needed to be conducted at a regional scale in order to identify impacts such as habitat bottlenecks or gaps in owl population connectivity that might be occurring at the regional scale.

A concern of the owl scientists at that time were so called "Areas of Concern," which were described as including "bottlenecks in the distribution of habitat or owl populations, gaps in the known distribution of owls, locally isolated populations, fragmented habitats, and areas with low densities of owls." See CASPO Report. Such regional gaps in available habitat make successful dispersal of CSO more difficult and reduces the likelihood of quick replacement of owls in vacated habitat, thereby increasing the potential for gaps in distribution that limit population interaction and reduce the likelihood of long-term persistence of the CSO. *Id.* The CASPO Report concluded that providing habitat at the regional scale for a large number of local CSO populations distributed widely across the landscape will increase overall persistence of the subspecies by decreasing the likelihood of populations simultaneously experiencing negative environmental effects, and that ensuring stable owl populations in the Sierra Nevada "will require specific management prescriptions, implemented at local to regional scales, to retain the amount and spatial pattern of habitat that will provide for a long-term balance between birth and death rates." *Id.*

The scientific recognition that management of CSO viability in the Sierra Nevada required forest planning at a range-wide scale led to the amendment of the eleven Sierra Nevada forest plans in 2001 and again in 2004. These regionwide amendments addressed threats to CSO, including the fragmentation of suitable habitat across the species range in the Sierra Nevada, by adopting Sierra-wide minimum management standards and by requiring population and habitat monitoring across the range to enable the tracking of CSO population status and trend. The Framework also adopted a substantive standard – Standard 80 – that limited the number of acres that could be treated in a single year and within a decade in CSO PACs across all Sierra Nevada national forests.

The Project's cumulative impact assessment does not address the impacts of this and other PSFPA projects in the Sierra or the additional loss of CSO habitat due to fires in the Sierra Nevada range, even though the Project substantially weakens the protective standards for CSO habitat and ignores Standard 80. Instead, the limited scale of the Project's cumulative assessment provides no information regarding the Project's potential to contribute to regional habitat fragmentation, as discussed below.

b. The DEIS Does Not Present the Relevant Environmental Baseline for Determining Cumulative Impacts to CSO Due to the Project and Other PSFPAs.

The DEIS's cumulative impact assessment does not provide information about how owls are presently distributed in the Sierra Nevada or how PSFPA's and recent fires have altered the environmental baseline for CSO.

At the time the CASPO Report and subsequent Forest Plan Amendments were enacted, owl scientists believed that the Sierra Nevada CSO population was "contiguous and fairly evenly distributed throughout its 400-mile length," though monitoring also showed the potential for regional gaps in CSO distribution in the Sierra, referenced in the Report as 'Areas of Concern.' See CASPO Report, pp 4-7. However, more recent studies show that CSO has low site occupancy and is becoming rare in the Sierra Nevada (Kelly et al. 2023). Other demographic studies show significant population declines on national forest lands, ranging from 30 to 50%. These studies are corroborated by the USFWS' analysis, which noted that in a future scenario in which management treatments were successfully implemented to address threats, the Sierra Nevada CSO population will still "have four analysis units declining, five strongly declining, and two that will likely be extirpated." (USDA Fish and Wildlife Service 2023). Overall, the USFWS found the "condition of the Sierra Nevada population is declining and, therefore, has low resiliency." (*Id.*)

Despite this ongoing and predicted regional population decline, the DEIS does not address this issue and instead assumes that CSO are well distributed in the Project area and in the Sierra. However, this conclusion is not based on current data, but instead on population monitoring published in 2010, over fifteen years ago. As a result, the DEIS' conclusions that owls will be able to persist in areas despite the increased logging proposed are not supported, given that no information is presented about current CSO population stability or the potential population gaps that may already occur.

Compounding this informational gap is the lack of any DEIS discussion of how recent fires in the Sierra Nevada have altered the landscape by eliminating owl nesting and roosting habitat, thereby potentially creating connectivity gaps between Sierra CSO populations. The Kelly et al. 2023 study, for example, completed surveys before the Dixie and Caldor Fires in 2021, and their results do not include observations of post-fire CSO occupancy. These and other scientists noted that a reduction in occupancy from the fires is likely and scientists estimated that approximately 186 nest sites may be abandoned as a result of habitat changes from high severity fire (USDA Forest Service 2022c).

The DEIS does not address how recent fires in the Sierra have changed the environmental baseline for purposes of CSO cumulative impact assessment and viability, but instead considers past fire activity only as an illustration of potential future new fires if no treatments are conducted. This is problematic, as the USFWS has recognized that recent fires in 2020–2021 burned at almost twice the frequency of 'high severity' as in the earlier decades, which "results suggest higher levels of disturbance to the species and increased recovery time for habitat

conditions to improve post-fire because such a large acreage burned over a relatively concentrated period of time.” See USDI Fish and Wildlife Service 2023. The DEIS’s singular focus on fire as a future ‘danger’ to CSO habitat rather than as part of the new regional landscape for owls to survive on prevents assessment of how these fires have made the owl’s preservation in the Sierra Nevada more tenuous and the remaining CSO habitat all the more critical to preserve.

The DEIS also presents no information about other PSFPAs and how these aggressive fuel reduction projects are also changing the Sierra landscape for CSO. As discussed, the PSFPA projects result in greater habitat loss and degradation compared to the Framework, eliminating hundreds of thousands of acres of suitable and high quality CSO habitat, including in PACs, but the DEIS never presents information about how this cumulative aggressive logging is affecting owl populations, particularly in areas where major fires have occurred.

c. The DEIS’ Cumulative Impact Assessment Does Not Address How Increased Logging and Recent Fires Will Have Significant Effects on CSO and Threaten CSO Viability in the Sierra Nevada.

The DEIS’s cumulative impact assessment does not evaluate the cumulative impacts to CSO that are occurring and will occur due to this Project and other PSFPA projects, in combination with the recent major fires that have occurred, the documented declines in owl populations across the Sierra Nevada, and the increasing spread of barred owls into the CSO’s Sierra populations.

As an illustration of this failure, Figures 3 and 4, depicted above, show two areas in the Sierra where a number of Forest Service fuel reduction projects using PSFPAs have been approved, which are surrounded by major high severity fires that have substantially reduced remaining owl habitat. In the north of the state, major fuel reduction projects have eliminated over 80,000 acres of suitable CSO habitat, including over 33,000 acres of ‘treatments’ in PACs, in a region that has experienced a number of fires that have burned at high intensity. See Figures 3 and 4, Map Locations A, B, C, D & E. Similarly, in the central Sierra, including the area impacted by this Project, fuel reduction projects propose to eliminate almost 110,000 acres of suitable CSO habitat, including over 86,000 acres of treatments in PACs, in a region that has experienced major fire impacts to the immediate north and south. See Figures 3 and 4, Map Locations I, H & G. The DEIS presents no information about how CSO are surviving in these heavily impacted areas or how the planned projects in conjunction with the fire damage may create decades long habitat and population gaps that will threaten owl viability, as predicted by the USFWS.

The DEIS also presents no information about how the Forest Service is complying with the limits on overall PAC acreage treatments as required by Standard 80 in the forest plans. This standard recognized that total PAC habitat quality needed to be protected at a regional scale in order to ensure CSO population stability and connectivity. The DEIS dispenses with this concern altogether, instead emphasizing only that future fires could make conditions even worse than they already are without more aggressive treatments. This approach does not, however, constitute a cumulative impact analysis, but rather a justification for a preferred policy.

Regarding the specific region in which this Project occurs illustrates these points further. The SERAL I (USDA Forest Service 2022a) and SERAL II (USDA Forest Service 2024c), projects are directly adjacent to the Project, and approve a reduction of suitable habitat to unsuitable on over 72,000 acres. Combined with the reduction in suitable habitat of 37,071 acres for this Project, almost 110,000 acres of suitable habitat would be rendered unsuitable. Meanwhile, the Caldor fire just to the north, and other fires to the south have potentially created isolated CSO populations in this region, thereby threatening their long term viability.

Isolated CSO populations were a key concern of the drafters of the forest plan amendments in early 1990s and these and subsequent amendments rejected the prior management approach of relying on Spotted Owl Habitat Areas ("SOHA"), which were essentially 1,000-acre blocks of owl habitat isolated from other owl populations by miles of unsuitable habitat, with no consideration of connectivity between owl populations. *See CASPO Report, p.15.* The Forest Service found at the time that a "SOHA strategy had an unacceptably low likelihood of maintaining the owl population over the next 50 to 100 years" and that such "strategy, culminating in a network of small, relatively isolated 'islands' of older forest suitable for breeding by spotted owls and separated by a 'sea' of younger, less suitable or unsuitable habitat, [was] not a workable strategy to assure long-term maintenance of spotted owls." *Id.*

The Project in this case has the potential to create similar isolated populations due to logging creating over 100,000 acres of unsuitable habitat for CSO, combined with the loss of territories and PACs due to the Caldor and other recent fires, yet the DEIS provides no information about how CSO is currently existing in the area or how past events and future projects could isolate CSO populations from those to the north and south. Without such analysis done at the proper scale to account for these cumulative adverse effects that are occurring, the DEIS fails to identify whether potential gaps in CSO populations are being created and owl viability threatened in the region.

3) Claims About Short Term and Long-term Trade-offs for California Spotted Owls are Contrary to the Evidence in the DEIS

The DEIS and supporting documents repeatedly claim that the proposed action will “maintain” highest quality nesting and roosting habitat. They link these claims with the belief that “structural shifts in CWHR classifications are acceptable and necessary for long-term persistence of both forests and CSO populations.” (DEIS, p. 53). These claims are not supported by the analysis in the DEIS or analyses completed by the Forest Service for other projects. And as noted elsewhere in these comments, these claims are not supported by spotted owl research.

The logging allowed in the proposed action does not “maintain” highest quality nesting and roosting habitat. Overall, the logging allowed by the project would degrade highest quality nesting and roosting habitat to best available habitat and even unsuitable habitat. For instance,

approximately 9,945 acres of highest quality nesting and roosting habitat (WQNR) will be changed (DEIS, Table 16, p. 54) to lower quality habitat or unsuitable habitat (DEIS, Table 17, p. 54 and Table 19, p. 60). This degradation of highest quality habitat is occurring despite claims that these conditions have been prioritized for maintenance. Contrary to this claim, 14% of the highest quality habitat in the project area will be degraded or rendered unsuitable (DEIS, Table 14, p. 50, Table 16, p. 54, Table 19, p. 60).

The claims of benefit also make reference to the trade-off of reduced habitat quality in the short term in order to increase fire resilience and reduce stand density. Both of these outcomes can be achieved using other logging practices while actually maintaining highest quality habitat, i.e. not making it unsuitable. The analysis in a recent project compares the forest plan, an alternative with a 20-inch tree diameter limit, and an alternative that is nearly the same as this proposed action. The analysis demonstrates that improvement in fire resiliency is nearly the same across all three alternatives (USDA Forest Service 2022a, Table 37, p. 112). Similarly, there is a substantial reduction in mortality risk within the forest plan and 20-inch tree diameter limit alternatives, and highest quality habitat is not degraded nor is suitable habitat made unsuitable.

Lastly, the ESD authority selected for this project prevents evaluation of alternatives. This prevents the consideration of other actions to ensure spotted owl viability while reducing fire risk. Instead, the DEIS becomes an echo chamber about the Forest Service's views of what they must do.

4) The DEIS Fails to Accurately Characterize Recent Wildfires and Their Impacts

The Forest Service continues to assert flawed generalization about fire outcomes in the Sierra Nevada, citing fire names and total acres but failing to reference the levels of fire effects that distinguish beneficial fires from uncharacteristically damaging fires. The DEIS refers broadly to many fires as "recent large, high-severity fires" with little detail provided. Failing to provide the science-based characterization of fire effects is a deceptive exaggeration of harm. We fact-checked the severity classes of several of the fires listed in the DEIS:

The **King Fire (2014) 100,000 acres** was 50% low and mixed severity while much of the high severity was in highly-flammable, uniform, high density plantations and not CSO habitat.

The **Donnell Fire (2018) 36,450** much of the burned area was low-mixed severity

The 2020 **North Complex Fire** (319,000 acres), 170,000 high-severity, nearly 150,000 acres burned at low-to mixed severity. Very little spotted owl habitat in low elevation areas.

The **Sequoia Complex fires** (the KNP Complex 2021) This fire burned 16 sequoia groves (almost entirely on NPS lands, with the exception of parts of Redwood Mountain Grove). Fire severity was estimated based on satellite data and sequoia grove maps. Of the 4,374 grove acres burned, 69 percent of the area had either no detected change or low severity fire, while 31 percent burned at moderate to high severity.

The **Caples Creek Fire** 3,435 acres 60% burned at low-to-moderate severity while much of the high severity was in south-facing green-leaf manzanita fields.

The **Caldor Fire** 2021 221,835 total acres with 92,134 acres burning at low severity 0% - < 25%

Presenting a false characterization of recent fire effects is a clear failure of the MAC DEIS to take an informed “hard look” at the facts in this environmental impact statement. Furthermore, the MAC MIS report states:

...recent high severity fires across the Sierra Nevada (including the 2021 Caldor Fire which overlapped portions of the MAC Project area) may result in increased territory extinction and reduced colonization, affecting the stability of California spotted owl populations (USDA Forest Service 2022, Tempel et al. 2022).

(MIS Report, p.32). These project effects to spotted owls are not adequately considered in the DEIS.

VI. The Project Does Not Comply With NFMA

1) The Project Does Not Comply with Standard 80 in the Current Forest Plan

The existing forest plans include a standard requiring tracking of vegetation treatments and established disturbance thresholds in PACs for the 11 national forests.

80. For California spotted owl PACs: Conduct vegetation treatments in no more than 5 percent per year and 10 percent per decade of the acres in California spotted owl PACs in the 11 Sierra Nevada national forests. Monitor the number of PACs treated at a bioregional scale.

(USDA Forest Service 2004, p. 61). The adoption of this standard was specifically affirmed in the 2004 record of decision (Ibid., p. 9). The DEIS does not evaluate compliance or otherwise address this standard.

In an effort to understand compliance with this standard, we examined activities proposed in PACs within this project and other recent projects in the Sierra bioregion. Our review of recent projects (Table 3) indicates that logging has been authorized in at least 374 PACs on the Lassen, Plumas, Tahoe, Eldorado and Stanislaus National Forests. These vegetation treatments cover about 80,615 acres. This is likely an underestimate of treatment acres since we did not count repeated treatments on a given acre. With the addition of the PACS proposed for treatment in this project, the total PACs treated would total 495 and affect 134,660 acres of habitat in PACs.

The projects noted in Table 3 include new forest plan amendments that allowed more aggressive logging than approved in the existing forest plans. Additional notes and details about these projects are provided in Appendix C of these comments.

Table 3. Spotted Owl PAC Vegetation Treatments in Recently Approved or Planned Projects.

Project	National Forest	PAC Area Planned for Treatment (ac)	Number of Treated PACs
SERAL 1	Stanislaus	15,721	51
SERAL 2	Stanislaus	16,298	58
North Yuba	Tahoe	14,184	77
North Fork	Plumas	1,500	46
Claremont	Plumas	3,848	19
Community Protection Project Central and West Slope	Plumas	26,596	89
West Lassen Headwaters	Lassen	149	22
Upper Butte Creek	Lassen	2,319	12
Total Approved		80,615	374
MAC	Stanislaus and Eldorado	54,045	121
Grand Total		134,660	495

To evaluate the treatment thresholds required by Standard 80 in the forest plans, we made some assumptions about the number of PACs in the Sierra Nevada and the baseline acreage. We used the current estimate of 1,399 PACs on national forests in the Sierra Nevada reported by the

Forest Service in 2010 (USDA Forest Service 2010, p. 46). Based on the estimate of 300 acres per PAC, there are approximately 419,700 acres of PACs in the Sierra Nevada. The projects displayed in Table 3 would apply vegetation treatments on about 32% of the area allocated to PACs. This far exceeds the threshold of 10% per decade set by Standard 80.

If we account for the loss of PACs to wildfire, the proportion of PAC area affected by vegetation treatments is even greater. We used information provided by the Forest Service (USDA Forest Service 2022c) to assess the degree to which high severity fire affected PACs. We set the threshold for “loss of PAC” as 50% or more of the PAC affected by high severity fire and found that 186 PACs were likely lost since 2020. We expect that this is an underestimate though. Nonetheless, we estimate the cumulative area of PACs area lost to wildfire as 55,800 acres. This change in PAC acreage regionwide increases to 37% the proportion of PAC area to have vegetation treatments applied to them. This accounting indicates that recently approved or to be approved vegetation treatments are to be conducted on upwards of 37% of the cumulative area of PACs in the Sierra Nevada. This estimate far exceeds the thresholds established by Standard 80 of 10% of the PAC area to be treated per decade and probably exceeds the annual threshold of 5%. This means that the project is not consistent with the forest plan and is a violation of NFMA. It is also a violation of IIJA section 40807, the commenting authority being applied to this project, that requires consistency with the forest plan.

2) The Plan Amendment in Appendix C Is Not Consistent with the Proposed Action

We raised this point in our comments on Chapters 1 and 2 of the DEIS. The proposed action indicates that a 20-inch DBH limit will be applied in PACs for this project and that a 30-inch DBH limit will be applied outside of PACs for this project. Since our review of the partial DEIS in 2025, the Forest Service has changed the diameter limit in STD-PROJ-01 to reflect that trees over 30 inches in diameter generally may not be harvested and then provides a limited exception for operability to remove trees up to 35 inches in diameter. The standard also includes confusing language unrelated to the standard. Appendix C still does not reflect the 20-inch tree diameter limit that is to be applied to owl nest areas (PACs). The representations of diameter limits in Appendix C are inconsistent with planning direction (36 CFR 219) for several reasons.

First, the proposed action identifies that a 20-inch diameter limit is being adopted in PACs, yet there is no mention of this in Appendix C. The response to comments (DEIS, Volume II) presents an extensive discussion of the issue in an attempt to justify their failure to include the diameter limit of 20-inch DBH in PACs in Appendix C. The reasoning does not hold up for a project-specific forest plan amendment, since the amendment itself is what governs the project. That is to say, the project and the amendment are one and the same. This was recognized in the guidance provided by the Regional Office on plan components to use in project-specific forest

plan amendments. Specifically, that guidance identified a specific standard to adopt to implement this conservation measures:

STD-PAC-04

When conducting mechanical thinning within California spotted owl PACs retain live tree conifers greater than 20 inches DBH.

(USDA Forest Service 2024b, p. 17). As directed by the regional guidance, when including a diameter limit in PACs in a project that is adopting a forest plan amendment, this is the standard that must be included. We ask that this standard be added to Appendix C.

Second, Appendix C presents information in STD-PROJ-01 that is unrelated to the 30-inch diameter limit. This information is confusing, includes extensive narrative in red type, and a section where the text is represented in grey type. If the intention is to adopt a diameter limit of 30 inches DBH with one exception, we see no reason to include the narrative in red and grey type. These confuse the clarity in the direction and have no place in a table that defines a plan component. We ask that the text in red and grey type be removed from Appendix C.

The obfuscation and resulting confusion from the representations of diameter limits in Appendix C have us wondering what the Forest Service seeks to achieve by this. It is certainly not clarity, since the presentation in Appendix C only confuses matters by omitting information on the 20-inch DBH limit or presents information appended to the standard for the 30-inch DBH limit that is unrelated. It does cause to wonder if the Forest Service expects by its presentation that at some future time, they plan to use this EIS to adopt different diameter limits in the geographic area bound by this project. We do not believe that such actions would comply with NEPA and NFMA. We ask that revise Appendix C as we request or explain your intentions.

3) Monitoring Required by the 2019 California Spotted Owl Conservation Strategy and the Forest Plans Not Been Implemented.

a. California Spotted Owl Monitoring Not Implemented

Adaptive management is a key component of the spotted owl strategy (USDA Forest Service 2019, p. 35). In light of the uncertainty and risk to spotted owl viability and sustainability that the MAC project poses by mechanically treating 121 known nest sites (PACs) and degrading habitat and making it unsuitable throughout their home ranges, research on the impacts to spotted owls should be a central pillar of this project. No such monitoring is proposed.

The 2020 PSW Broad-Scale Monitoring Strategy reported declines in California spotted owl occupancy between 2020-2024 (USDA Forest Service 2025). The USFS committed to respond to the continued decline in owl occupancy by revisiting the 2019 conservation strategy (Id.). The 2019 strategy recommends adaptive management and monitoring:

- the status and trend of spotted owl suitable habitat, and effects of disturbance and engagement on owl habitat suitability, and
- trends in number and distribution of PACs over time.

(p.38). To our knowledge, neither of these variables are being evaluated at the forest or regional level. Instead, the DEIS relies on outdated spotted owl habitat and population monitoring data that is 16 years old (MAC MIS report p.32).

The monitoring research design should be informed by several facts. First, response variables should include spotted owl occupancy and reproduction. Second, research shows that owls respond to habitat conditions at multiple scales, so response variables should be matched with pre- and post-habitat conditions at multiple scales for each site (i.e., canopy cover and CWHR types at the nest stand, PAC, and territory scales). Third, monitoring should begin several years prior to treatment to encompass variability in spring weather patterns (known to influence raptor nesting success) and the first 3 years post-treatment. Current research shows HRCAs and PACs experiencing severe wildfire and green forest logging show site fidelity for the first 3+years. Territorial owls can take 2-3 years to respond to even extreme disturbances (Stephens et al. 2014; Lee and Bond 2015; Jones et al. 2020). In Stephens et al. (2014), spotted owl occupancy was maintained for several years following logging while owls used larger areas to forage. Eventually this study saw a 43 percent reduction in spotted owl occupancy from experimental logging after year three.

The MAC project must also comply with the monitoring required in Standard 80 in the forest plans which states the Forest Service is allowed to, *conduct vegetation treatments in no more than 5% per year and 10% per decade* of California spotted owl PACs in the 11 Sierra Nevada national forests and *monitor the number of PACs treated at the bioregional scale*.

Our own desktop monitoring shows that vegetation treatments in spotted owl PACs and goshawk PACs on the Stanislaus, Eldorado, Tahoe, Plumas, Lassen, and Tahoe Basin may exceed that amount in the past 5 years (Table 3). There are now over 490 California spotted owl PACs proposed for intensive logging across the Sierra Nevada.

The regional direction for implementing PSFPAs states *The plan amendment components may be updated by the Regional Office based on lessons learned as the components are incorporated into projects* (USDA Forest Service 2024b), yet no such monitoring studies have been proposed. Spotted owl PAC losses from severe fire increases the urgency to investigate the impacts of project-specific forest plan amendments on California spotted owl PAC occupancy and productivity before proceeding further.

b. Management Indicator Species Habitat and Population Trends Misinform the DEIS Because Monitoring Data are 15+ Years Out of Date

The management indicator species (MIS) report for the MAC projects says that the purpose of the MIS report is to

...evaluate and disclose the impacts of the MAC project on the habitat of the thirteen Management Indicator Species (MIS) identified in the Stanislaus National Forest (STF) Land and Resource Management Plan (STF LRMP) (U.S. Department of Agriculture Forest Service [USDA Forest Service] 1991) and the thirteen MIS identified in the Eldorado National Forest (ENF) LRMP (ENF LRMP; USDA Forest Service 1988), as amended by the Sierra Nevada Forests Management Indicator Species Amendment (SNF MIS Amendment) Record of Decision (ROD) (USDA Forest Service 2007a).

(MIS p. 1). The MAC impact assessments for MIS population and habitat trends are based on data from 2010 or earlier. For example, the required spotted owl monitoring data is outdated from a 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a). Likewise, the Sierra Nevada MIS monitoring for aquatic macroinvertebrates relies on old data collected between 2009 and 2012 (Id.), and habitat and/or population trends for fox sparrow, mule deer, Pacific tree frog, northern flying squirrel, Pacific marten, and black backed woodpecker do not incorporate current data and instead rely on data from habitat and population trends in the 2010 Bioregional MIS Report (USDA Forest Service 2010).

The MIS data used in the MAC report does not take into account landscape level changes to MIS habitat in the region and project area in the past two decades. Without current monitoring data, the USFS cannot consider if the MIS could be impacted by anything that's happened in the last 15 years, including the Caldor Fire, Caples Fire, Donnell Fire, SERAL 1 project, SERAL 2 project, the Rim fire, and other activities mentioned in the DEIS cumulative effects section. The Stanislaus and Eldorado National Forests have also implemented large scale reforestation efforts that include widescale application of herbicide to control the native early-seral vegetation that naturally grows after a fire. Some of the MAC project MIS depend upon this early seral habitat and were chosen as indicators for that very habitat. Likewise, aquatic invertebrates were chosen

for the agency to assess water quality following such events, but monitoring for these MIS has been halted for more than a decade.

The Forest Service cannot skip forest plan requirements and should not proceed with additional vegetation management including helicopter logging of old forests and herbicide application across the 250,000 acres project area until the status and trends of MIS and their habitats are accurately addressed in the DEIS, as required. Impact assessments for at least 7 MIS are inaccurate for the MAC project and must be updated.

4) DEIS Analysis of Spotted Owl Habitat Loss is Not Based on Science

There are no peer-reviewed scientific studies that investigate how spotted owls will respond to 100 acres or more of habitat alteration in their 300-acre nest areas (PACs). Only three studies have investigated experimental logging impacts to California spotted owls at a larger 1,000-acre territory scale. Researchers consistently show that reductions in canopy cover in owl territories reduce owl occupancy in the area (Keane et al. 2017). In other words, USFS researchers showed that owls tend to leave if canopy cover drops below 50% in their territory because there's insufficient habitat left for them. These studies never logged in the PACs closer to the owl nests, as proposed in MAC, yet still researchers found that logging in owl territories (outside of PACs) including thinning and small group selection pose long-term negative impacts to spotted owls (Seamans and Gutierrez 2007; Tempel et al. 2016; Tempel et al. 2014; Stephens et al. 2014).

The MAC BE uses Ng et al. (2025) to justify reductions in owl habitat planned on the Stanislaus and Eldorado national forests and say they are not of great concern. The results from Ng et al. were incorrectly interpreted by the USFS to indicate that negative effects of heavy canopy cover reductions were not risky for owls:

Importantly, the study [Ng et al.] emphasized that negative effects of heavy treatments were small compared to losses from severe fire and drought, and that retention of structural complexity and large trees strongly mitigates risk.

(BE p103). The results from Ng et al. however show a total of 65 spotted owl territories were lost due to "heavy" canopy cover treatments from fuels management logging (Ng et al. 2025, p.1). Authors defined heavy canopy cover reductions as a loss of 25% or more of the existing canopy. The MAC project proposes reductions of 25% or more of canopy cover in 6,568 acres of spotted owl PACs where 6, 5D and 4D (100-65% cover) is being reduced by at least 25% to 5M, 4M (64-40%) and in some cases to 4P (25-40% cover). Similar "heavy canopy cover reductions" are also planned in territories and broadly across spotted owl habitat. The MAC meets or exceeds the Ng et al. definition of heavy canopy cover treatments that cause spotted owls to abandon their

territories in the Sierra Nevada. And yet, the MAC BE underestimates the risk of harm to spotted owls:

In the context of this project, treatments within PACs are designed with a 20-inch diameter limit and retention of key habitat features making heavy canopy cover reductions unlikely.

(BE p.103). Unfortunately, this is incorrect. The MAC project will lead to drastic reductions in canopy cover in PACs as described in DEIS Table 16 (p. 54). The BE again states that dense canopy conditions within the highest quality habitat in PACs were “largely preserved” (p.104), adding that in PACs

Although some areas transition to more open classes (e.g. 4M and 4P), these changes reduce ladder fuels and competition, fostering regeneration and within-stand diversity- key components of long-term habitat quality.

(BE, p.105). Here, the USFS does not consider how rendering best quality habitat in spotted owl PACs to unsuitable 4P with “poor” tree stocking (25-40% cover) will disrupt the owl’s ability to reproduce or even survive (Appendix A).

While high severity fire poses a threat to spotted owls, this does not indicate that removing owl habitat by logging is not also a threat to spotted owl persistence in the region. Indeed, recent research shows exactly this (Ng et al. 2025; Keane et al. 2017; Appendix A). The DEIS underestimated the potential risk to spotted owls especially after such devastating losses already incurred in the Sierra Nevada from recent logging and high severity wildfire. We estimate over 681 PACs will be affected by logging under the new plan amendments or wildfire (Table 3 and USDA Forest Service 2022c). We have advocated for decades for the USFS to reduce flammable surface and ladder fuels to protect spotted owl habitat across the Sierra Nevada but the MAC project goes too far and proposes removal and downgrading of vital spotted owl habitat, threatening species survival in the short term.

5) MAC Plan Amendments to Log 100 acres in Spotted Owl PACs Lack Scientific Basis

The California spotted owl conservation strategy and PSFPAs do not provide a scientific basis for the scale or intensity of habitat alteration allowed in PACs and territories. Rather, these management approaches overlook less extractive alternatives that pose far less harm to spotted owls.

The MAC plan amendment STD-PAC-01 allows up to 100 acres of habitat in a PAC to be rendered unsuitable by logging and allows for additional removal for fuel breaks and defense zones (DEIS p.160).

The MAC project relies on studies such as Eyes et al. (2017) as evidence that 100 acres of logging disturbance in PACs mimics habitat heterogeneity found in nature. The USFS makes four major misinterpretations of the science. First, Eyes et al. looked at the effects of wildfire on spotted owls, not logging. Second, the study took place in Yosemite National Park where spotted owl habitat is unaltered by the extractive logging history that national forests have experienced (USDA Forest Service 2019). Third, the study examined owl responses to wildfire at the 966-acre territory scale, not the PAC scale. In conclusion, the USFS makes misleading interpretations of best available science to justify making spotted owl habitat unsuitable, thus threatening the persistence of spotted owls in the project area.

The USFS also refers to Zulla et al. (2023) to support the claim that all the habitat removal will help owls by creating foraging habitat (DEIS p.58).

While owls may forage in areas with large tall trees, they more frequently use stands with smaller trees, open conditions or large trees that are more sparsely distributed...For example, woodrats thrive in more open habitats and provide a higher energy food source than flying squirrels which are more common in dense closed canopy stands (Zulla 2023).

(DEIS p.58). The DEIS fails to add that Zulla cautions that open areas sometimes used by owls to forage must have brush and young forest to benefit owls and their woodrat prey, rather than being devoid of understory vegetation (as in fuels treatments or clear cuts). So, the premise that fuels treatments in spotted owl PACs or territories are creating foraging habitat is not based in science and to reference Zulla as a citation to support the belief that the proposed logging will create woodrat habitat is a misinterpretation of this study.

6) Information About Stand Density

The DEIS misuses the North et. al. (2022) study on stand density index (SDI) and operational resilience by failing to account for the condition of the trees in 1911. At that time, there were fewer trees, but they were generally of a much larger (old growth) condition. These trees provided increased wildfire resilience, carbon stability, rich habitat conditions supporting old forest associated species. After 1911, the Forest Service logged relentlessly in the mid-to-late 1900s until the CASPO Technical Report (Verner et al. 1992) and 1993 California Spotted Owl Interim Guidelines (USDA Forest Service 1993) ended logging of trees greater than 30-inches

diameter in an effort to prevent further harm to this severely at-risk species. The information in North et al. must be applied with this context in mind.

VII. Other Issues

1) Shortened Public Input Opportunities

We encountered the same barrier to document review during the 14-day public comment period that we encountered during the Upper Butte Creek and West Lassen projects on the Lassen National Forest. All three times, we asked staff to post specialist reports online so the public could easily access it. This was done over a day into the MAC comment period and our partners were unable to access the project record during the full 14-day comment period. It is especially difficult to review items mere days prior to the deadline. Although the project is under an emergency authority that justifies limiting public input, the DEIS is hundreds of pages long and produced many technical reports. And, the DEIS discusses the project implementation over the course of many years. Another few weeks of public review time would not have hindered staff's ability to accomplish timely project planning, especially during the winter months when much of the project area is under road closures due to snow. It is also disingenuous to shorten the public comment period on a project that the agency plans to take years or decades to implement.

Perhaps public comment periods are not what's slowing down projects. The USFS has struggled recently to implement community fuels protection projects. NEPA-ready projects have languished for years without implementation until the very community they were supposed to protect ends up burning up. As your staff are aware, the Cador Fire burned up the town of Grizzly Flats even though there was a NEPA-ready fuel reduction project shelved for years before the fire. The same situation occurred in Michigan Bluff with the Mosquito Fire on the Tahoe National Forest. An honest assessment of the barriers to implementation are needed because the delays are not about NEPA.

Limiting public involvement for an emergency project that apparently will take a decade or more to implement is disingenuous and unfair. Although some special interests may disagree, this is matter that affects public land and the local taxpayers have a right to weigh in on such a giant project with ample time to review and comment.

CITATIONS

Bias, M. A., and R. J. Gutiérrez (1992). Habitat associations of California Spotted Owls in the central Sierra Nevada. *The Journal of Wildlife Management* 56:584–595.

Blakesley, J.A., B.R. Noon, and D.R. Anderson. 2005. Site occupancy, apparent survival, and reproduction of California spotted owls in relation to forest stand characteristics. *Journal of Wildlife Management* 69:1554-1564.

Conner, M.M., Keane, J.J., Gallagher, C.V., Jehle, G., Munton, T.E., Shaklee, P.A. and Gerrard, R.A., 2013. Realized population change for long-term monitoring: California spotted owl case study. *The Journal of Wildlife Management*, 77(7), pp.1449-1458.

Council on Environmental Quality 1997. Considering Cumulative Effects Under the National Environmental Policy Act. Office of the President. January 1997.

Eyes, S.A., S.L. Robers, and M.D. Johnson. California Spotted Owl (*Strix occidentalis occidentalis*) habitat use patterns in a burned landscape. 2017 *The Condor: Ornithological Applications* 119:375-388.

Jones, G.M., Kramer, H.A., Whitmore, S.A., Berigan, W.J., Tempel, D.J., Wood, C.M., Hobart, B.K., Erker, T., Atuo, F.A., Pietruni, N.F. and Kelsey, R., 2020. Habitat selection by spotted owls after a megafire reflects their adaptation to historical frequent-fire regimes. *Landscape Ecology* 35(5):1199-1213.

Jones, G. M., Kramer, H. A., Berigan, W. J., Whitmore, S. A., Gutiérrez, R. J., & Peery, M. Z. (2021). Megafire causes persistent loss of an old-forest species. *Animal Conservation* 1-12. <https://doi.org/10.1111/acv.12697>

Kelly, Kevin G., Connor M. Wood, Kate McGinn, H. Anu Kramer, Sarah C. Sawyer, Sheila Whitmore, Dana Reid, Stefan Kahl, Aimee Reiss, Jonathan Eiseman, William Berigan, John J. Keane, Paula Shaklee, Lief Gallagher, Thomas E. Munton, Holger Klinck, R.J. Gutiérrez, M. Zachariah Peery 2023. Estimating population size for California spotted owls and barred owls across the Sierra Nevada ecosystem with bioacoustics, *Ecological Indicators*, Volume 154. <https://doi.org/10.1016/j.ecolind.2023.110851>

Ng, E.M.Y., Wood, C.M., Kramer, H.A., Winiarski, J.M., McGinn, K.A., Whitmore, S.A., Eiseman, J.P., Kelly, K.G., Sawyer, S.C., Thompson, C. and Peery, M.Z., 2025. Severe fire has impacted populations of the California spotted owl more than fuels management or drought-related tree mortality. *Forest Ecology and Management*, p.123469.

Seamans, M.E. and R.J. Gutierrez. 2007. Sources of variability in spotted owl population growth rate: testing predictions using long-term mark-recapture data. *Oecologia* 152:57-70.

Seamans M.E., and R.J. Gutiérrez. 2007. Habitat selection in a changing environment: the relationship between habitat alteration and spotted owl territory occupancy and breeding dispersal. *The Condor* 109:566-576.

Stephens, S.L., S.W. Bigelow, R.D. Burnett, B.M. Collins, C.V. Gallagher, J. Keane, D.A. Kelt, M.P. North, L.J. Roberts, P.A. Stine, and D.H. Van Vuren. 2014. California spotted owl, songbird, and small mammal responses to landscape fuel treatments. *BioScience* 64:893-906.

Tempel, D.J. and Gutiérrez, R.J., 2013. Relation between occupancy and abundance for a territorial species, the California spotted owl. *Conservation Biology*, 27(5), pp.1087-1095.

Tempel, D.J., R.J. Gutiérrez, S.A. Whitmore, M.J. Reetz, R.E. Stoelting, W.J. Berigan, M.E. Seamans, and M.Z. Peery. 2014. Effects of forest management on California spotted owls: implications for reducing wildfire risk in fire-prone forests. *Ecological Applications* 24:2089-2106.

Tempel, D. J., R. J. Gutiérrez, J. J. Battles, D. L. Fry, Y. Su, Q. Guo, M. J. Reetz, S. A. Whitmore, G. M. Jones, B. M. Collins, S. L. Stephens, et al. 2015. Evaluating short- and long-term impacts of fuels treatments and simulated wildfire on an old- forest species. *Ecosphere* 6:1–18.

USDA Forest Service. 1993. Calif. Spotted Owl Sierran Province Interim Guidelines Environmental Assessment, Decision Notice, and Finding of No Significant Impact. USDA Forest Service. Pacific Southwest Region. San Francisco, CA. January, 1993. 444 pages.

USDA Forest Service, Pacific Southwest Region. 2001. Sierra Nevada Forest Plan Amendment: Final Environmental Impact Statement [FEIS]. Vallejo, CA.

USDA Forest Service. 2004 Record of Decision for the Final Supplemental Environmental Impact Statement for the Sierra Nevada Forest Plan Amendment. Pacific Southwest Region, 2004.

USDA Forest Service. 2010. Sierra Nevada Forests Bioregional Management Indicator Species (MIS) Report: Life history and analysis of Management Indicator Species of the 10 Sierra Nevada National Forests: Eldorado, Inyo, Lassen, Modoc, Plumas, Sequoia, Sierra, Stanislaus, and Tahoe National Forests and the Lake Tahoe Basin Management Unit. Pacific Southwest Region, Vallejo, CA. December 2010. 132pp. Available at: <http://data.prbo.org/apps/snamin/#resourceHeadingBioregional>.

USDA Forest Service. 2019. Conservation Strategy for the California spotted owl (*Strix occidentalis occidentalis*) in the Sierra Nevada. Pacific Southwest Region, Version 1.0. Publication R5-TP-043. April 2019.

USDA Forest Service 2022a. Social and Ecological Resilience Across the Landscape. Final Environmental Impact Statement. Stanislaus National Forest. Pacific Southwest Region. February 2022

USDA Forest Service 2022b. Terrestrial Wildlife Biological Evaluation SERAL. Stanislaus National Forest. Pacific Southwest Region. February 2022.

USDA Forest Service. 2022c. Wildfire and California Spotted Owl Habitat in the Sierra Nevada. Powerpoint presentation Feb. 23, 2022. Keane, J.J., R.A. Gerrard, L.R. Gallagher, T.E. Munton, and P.A. Shaklee, Pacific Southwest Research Station.

USDA Forest Service 2024a. Project documentation form for the Caldor Fire Recovery Project. Tiers to the Programmatic Biological Assessment for California Spotted Owl Sierra Nevada Distinct Population Segment. June 27, 2024. Eldorado National Forest. Pacific Southwest Region.

USDA Forest Service 2024b. Project-specific Forest Plan Amendments for California Spotted Owl Habitat 2004 Sierra Nevada Forest Plan Amendment Forests: Modoc, Lassen, Plumas, Tahoe, Eldorado, and Stanislaus National Forests. Pacific Southwest Region.
https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd1188678.pdf

USDA Forest Service 2024c. Social and Ecological Resilience Across the Landscape 2.0. Final Environmental Impact Statement. Stanislaus National Forest. Pacific Southwest Region. June 2024

USDA Forest Service. 2025. R5 Broader Scale Monitoring California Spotted Owl. Pacific Southwest Region. 21 pages.

USDI Fish and Wildlife Service. 2022. Species Status Assessment for the California Spotted Owl (*Strix occidentalis occidentalis*), Version 2.0. November 2022. Sacramento, California.

USDI Fish and Wildlife Service. 2023. Endangered and Threatened Wildlife and Plants; California Spotted Owl; Endangered Status for the Coastal- Southern California Distinct Population Segment and Threatened Status with Section 4(d) Rule for the Sierra Nevada Distinct Population Segment. Federal Register Volume 88 number 36, p.11617; Feb 23, 2023.

Verner, Jared; McKelvey, Kevin S.; Noon, Barry R.; Gutierrez, R. J.; Gould, Gordon I. Jr.; Beck, Thomas W., Technical Coordinators. 1992. The California spotted owl: a technical assessment of its current status. Gen. Tech. Rep. PSW-GTR-133. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture; 285 p.

Zulla, C.J., Kramer, H.A., Jones, G.M., Keane, J.J., Roberts, K.N., Dotters, B.P., Sawyer, S.C., Whitmore, S.A., Berigan, W.J., Kelly, K.G. and Wray, A.K., 2022. Large trees and forest heterogeneity facilitate prey capture by California Spotted Owls. *Ornithological Applications*, 124(3), p.duac024.

Zulla, C.J., Jones, G.M., Kramer, H.A., Keane, J.J., Roberts, K.N., Dotters, B.P., Sawyer, S.C., Whitmore, S.A., Berigan, W.J., Kelly, K.G. and Gutiérrez, R.J., 2023. Forest heterogeneity outweighs movement costs by enhancing hunting success and reproductive output in California spotted owls. *Landscape Ecology*, 38(10), pp.2655-2673.