



September 17, 2025

Eldorado 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 chapters 1 and 2 of the Draft Environmental Impact Statement Scoping Notice for the Mokelumne Amador Calaveras Forest Resilience Project (MAC Project) (<https://www.fs.usda.gov/project/?project=65796>)

To the Project Team,

This letter is in response to the invitation to comment on Chapters 1 and 2 of the Draft Environmental Impact Statement (DEIS) for the Mokelumne Amador Calaveras Forest Resilience Project (MAC 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. We also support meadow, stream and riparian area restoration.

We have reviewed Chapters 1 and 2, appendices and supporting maps and submit the following comments with the goal of achieving a project that strikes the right balance between restoring landscape resilience, conserving biodiversity, and reducing risk to human communities and infrastructure.

Thank you for considering our comments. Please add each of the parties below to the notification list for the DEIS. If you have questions about these comments, please contact Susan Britting.

Sincerely,

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Comments on Chapters 1 and 2 of the DEIS for the MAC Project

I. Prescribed Fire

We appreciate that the Proposed Action (p. 23) includes the application of prescribed fire across the entire project area. Paired with well-designed fuel reduction treatments prescribed fire treatments will be the surest way to improve forest resilience. We also note that once analyzed in an environmental decision-making document, an unplanned ignition that burns within desired conditions in the project area can be counted toward the achievement of beneficial fire in the bioregion.

II. Use of Herbicides

We are generally opposed to the use of herbicides, but make limited exceptions for controlling invasive plants. For this project, we are also willing to not object to the application of herbicides to 300 acres per year per range district for fuel break maintenance, as described in the proposed action. We strongly believe that fuel break maintenance should utilize other practices and not be dependent on chemicals for maintenance.

III. Mechanical Treatments in Inventoried Roadless Areas (IRAs)

We appreciate that temporary roads will not be constructed within IRAs and that mechanical treatment will not be completed in these areas.

IV. Wild and Scenic River Issues Remain Unresolved.

Determining the level of treatment and crafting treatments to protect the eligibility of the North Fork Mokelumne for National Wild and Scenic River protection remain unresolved.

A. History of the North Fork Mokelumne River's Wild and Scenic status.

Approximately 17 miles of the North Fork Mokelumne River from Salt Springs Dam to the Tiger Creek afterbay were determined eligible for National Wild and Scenic River protection by the Forest Service in the 1988 Eldorado National Forest Land and Resource Management Plan. The river was determined eligible because it was free-flowing and possessed outstandingly remarkable history/culture value associated with the Mokelumne Archaeological Special Interest Area.

A subsequent suitability study was completed by the Forest Service in 1990 and the Agriculture Secretary recommended to Congress in 1994 that the 6.5-mile segment of the North Fork between Salt Springs Dam to one mile downstream of the Bear River confluence be added to the National Wild and Scenic Rivers System. At this point, the remaining 10.5 miles of the river lost the administrative protection of its free-flowing character and outstandingly remarkable cultural value provided by agency guidelines.

The Forest Service made this decision to allow for future water and hydroelectric resources development on the 10.5 mile stretch of the river below the 6.5-mile suitable (recommended) segment. Proposed by the Amador Water Agency, the Devil's Nose Dam was at the time being studied under a preliminary permit and subsequent license application to the Federal Energy Regulatory Commission (FERC). FERC ultimately rejected the license application for the Devil's Nose Dam due its economic infeasibility. But the Forest Service never reconsidered its decision finding the 10.5-mile segment of the river to be unsuitable, even though the dam project that was the basis of the decision was no longer practical or reasonable.

B. Concerns about project impacts on the eligibility of the North Fork Mokelumne.

During public scoping for the MAC Project, conservationists raised serious concerns about proceeding with proposed treatments in the Wild and Scenic River (WSR) corridor of both the suitable and formerly eligible segments of the North Fork. We believe that WSR eligibility should be reinstated for the 10.5-mile segment determined unsuitable in 1990 because the dam project that this decision was intended to accommodate is no longer viable. In addition, new circumstances and information strongly support our contention that the entire river possesses more outstandingly remarkable values than just the cultural value identified in the 1988 and 1990 documents.

Acknowledging all 17 miles of the North Fork as eligible and identifying additional outstandingly remarkable values are crucial to an adequate analysis of project impacts under NEPA. But in its response to public scoping comments, the Forest Service stated that "Reassessment of the North Fork Mokelumne proposed W&S river segments and to consider additional outstandingly remarkable values is outside the scope of the MAC project's purpose and needs." (RTC, pg. 19) It may be technically true that reassessing the unsuitable segment of the river for eligibility and identifying additional outstanding values for both segments is outside the scope of the fuels treatment project, but failure to do so will result in an inadequate NEPA analysis.

C. Managed fire should be reintroduced into the WSR corridor after the NEPA process considers the eligibility of the entire segment and additional outstandingly remarkable values are identified and protected.

We support the critical reintroduction of managed fire in the entire 17-mile WSR corridor and we appreciate and acknowledge the Forest Service's proposal to avoid extensive mechanical treatments for forest thinning and fuel reduction in the suitable segment. But a full and proper NEPA analysis logically requires a reassessment of the river's outstanding values and treating the 10.5 mile formerly eligible segment as eligible and protected under agency guidelines. Without this full analysis and reassessment, the entire 17-mile river corridor would have to be removed from the MAC project to ensure that adverse impacts are avoided. We believe the river corridor needs at least some level of treatment, but only if the formerly eligible segment is reinstated and additional outstandingly remarkable values are considered and identified. Only by accomplishing this will a thoughtful and effective project be implemented that fully protects the

river and its free-flowing condition and outstandingly remarkable values, while ensuring that fuels are treated in a manner to reduce the threat of catastrophic fire.

D. New circumstances and information strongly suggest that the entire North Fork Mokelumne possesses more outstandingly remarkable values than just the cultural value identified by the Forest Service.

Since the North Fork was found to possess an outstandingly remarkable cultural value and therefore was eligible for National Wild and Scenic River protection, a number of subsequent studies support the idea that the river possesses more than just an outstanding cultural value, including:

State Extraordinary Values – A legislatively mandated state study of the Mokelumne (including the North Fork) in 2018 found the river to possess extraordinary scenery and recreation values. Federal outstandingly remarkable values and state extraordinary values are virtually synonymous. Both are used to determine the eligibility of candidate rivers and federal and state law both require that the rivers be managed to protect these values. There is considerable overlap and agreement in the identification of these values when both federal and state studies have been conducted for the same river. The California Legislature agreed that the Mokelumne (including the North Fork) possesses outstanding scenery and recreation values and protected the river in the state system in 2018.

BLM WSR Study – In 2007, the BLM Mother Field Office conducted a federal WSR study of the 20.2-mile-long North Fork and main stem Mokelumne River between Tiger Creek Dam and 100 feet below Highway 49. The agency determined that the river possesses outstandingly remarkable scenery, culture, and hydrology (water quality) values and recommended it be designated. BLM and Forest Service guidelines to identify outstandingly remarkable values are quite similar.

FERC Project 137 Relicensing – The FERC relicensing of PG&E's Mokelumne Hydroelectric Project 137 resulted in detailed fish and wildlife studies. The studies confirmed that the Mokelumne canyon (including the North Fork) is rich in critical habitat for the threatened California spotted owl and identified the river as supporting threatened foothill yellow-legged frog, which is in dire shape generally in the central Sierra Nevada. Further, studies show that the Mokelumne population is genetically distinct from other Sierra populations and that the Mokelumne population has unique strategies for surviving in river flows controlled by upstream dams.

Updated Agency Guidelines – The Forest Service Handbook guidelines for studying potential WSRs, and specifically for determining how outstandingly remarkable values are identified, have been updated and greatly expanded since the 1988 study. The expanded guidelines facilitate eligibility determinations. The Inyo, Sequoia, and Sierra National Forests all completed WSR inventories in the first round of Forest Plans in the 1980s under the original guidelines. The 2018-2019 revisions of these plans identified many additional eligible stream segments, in part because the expanded detailed guidelines facilitated the identification of outstandingly remarkable values.

Taken together, these studies support our contention that the North Fork Mokelumne also possesses outstandingly remarkable scenery, recreation, and wildlife values that require recognition and protection in the context of the MAC Project. The state WSR study also concluded that the North Fork between the Bear River confluence and Tiger Creek Afterbay (the segment determined unsuitable by the Forest Service) is eligible for Wild classification. State and federal law provide identical definitions of wild, scenic, and recreational river classifications. This suggests that the river downstream of the Bear River confluence should be managed and protected as a Wild River and not Scenic (as identified by the Forest Service).

E. Treatment acreage numbers in the WSR corridor do not comply with the legislatively established limit of 320 acres average per mile for National WSRs.

According to Tables 1, 5, and 7, the project proposes 5,754 acres of forest thinning, fuel reduction, and fuel breaks in the 10.5-mile formerly eligible segment. In contrast, the project proposes only 353 acres of fuelbreaks in the 6.5-mile suitable segment with no further mechanical treatments proposed. Both segments will be subject to a lot of prescribed fire – 24,132 acres to be specific. This is the sum of acreage of all proposed treatments in the eligible and suitable WSR corridor from Tables 1, 5, 7, and 9. But there is something wrong with these numbers. By law, WSR corridors may average no more than 320 acres per mile. That’s 5,440 acres for the entire 17-mile-long corridor and yet the total acreage of forest thinning, fuel reduction, and fuelbreaks in the WSR corridors is 6,107 acres, plus 24,132 acres of prescribed fire. The acreage numbers appear to be far beyond a simple overlap of different treatments.

Table 1. Proposed MAC Project Treatment Acreage in North Fork Mokelumne WSR Corridor

ACTIVITY	SUITABLE WSR	ELIGIBLE WSR	TOTAL WSR
Forest Thinning	0	3,281	3,281
Fuel Reduction	0	1,765	1,765
Fuelbreaks	353	708	1,061
<i>SUBTOTAL</i>	353	5,754	6,107
Fire Rx	9,557	8,468	18,025
TOTAL	9,910	14,222	24,132

(Source: Tables 1, 5, 7, 9 on PA pages 9, 18, 20, and 23 respectively)

F. Response to WSR scoping comments (RTC pg. 19).

We’ve already noted out concern that the Forest Service believes that reassessing the North Fork Mokelumne and identifying additional outstanding values is “outside the scope of the MAC project’s purposes and need.” Although we appreciate the agency’s commitment to analyze the proposed project’s potential impacts on the eligible and suitable segments of the North Fork Mokelumne, we don’t believe the analysis will be adequate because the river’s obvious outstanding scenery, recreation, and wildlife values are being ignored. We do appreciate the analysis including the suitable segments of the North Fork Stanislaus and the eligible segments

of the North Fork Mokelumne’s tributaries. We will look forward to reviewing and commenting on this analysis when the full DEIS is released for public comment.

G. Reassessment of the 10.5-mile segment of the North Fork and identification of additional outstandingly remarkable values need not require a full-on study.

We do not want WSR issues to delay analysis and implementation of the MAC Project. We believe reconsideration of the eligibility of the 10.5-mile segment and identification of additional outstandingly remarkable values can be done internally within the agency through one or more meetings of their resource specialists in the next few months. This process would be enhanced by providing opportunities for public review and comment in the MAC DEIS. Several Forests have made commitments to consider WSR eligibility at the project level, if the project potentially impacts possible WSR values.

V. Diameter Limits

There has been extensive discussion in meetings with the Amador-Calaveras Consensus Group (ACCG) about the diameter limits that would be applied to vegetation management actions in the MAC project. It generally has been understood that this project would apply a 20” diameter limit in protected activity centers (PACs) and a 30” diameter limit in all other locations. Exceptions to this of up to 35” DBH would be allowed for operability. Table 2 (p. 10) in the document under review appropriately characterize this. These diameter limits are also reinforced in your agency’s response to comments.

Table 2. Forest Thinning DBH Limits

Land Allocation	Tree Type	DBH limit (inches)
CSO PAC	All Trees	≤20; up to 35 for operability
CSO Territories	All Trees	≤30, up to 35 for operability
General Forest	All Trees	≤30, up to 35 for operability

We are, however, concerned about inconsistencies in the presentation of diameter limits in other parts of the review document that would likely lead to confusion and misapplication of Table 2.

First, we note that Table 2, specifying the diameter limits, references “forest thinning” and the table only appears in Section 2.1.A. that describes “forest thinning.” The discussion in section 2.1.A. is geographically limited to the areas selected for forest thinning. For example, “forest thinning” is estimated to occur on 78,793 acres as shown in Table 1. Forest thinning is referred to generally in the section on fuel breaks, but it is unclear if the diameter limits in Table 2 apply to the forest thinning to be completed in fuelbreaks. To resolve this concern, we ask that the discussion on diameter limits be inserted prior to section 2.1.A. and that the text be revised to make clear that the limits apply to vegetation activities targeting live trees.

Second, the proposed action specifies certain diameter limits, but these are not properly reflected in the forest plan amendment presented in Appendix C. Appendix C fails to limit tree removal in

PACs to trees less than 20" DBH and outside of PACs to trees less than 30" DBH. Instead, new standard STD-PROJ-01 (Appendix C, p. 66) allows the removal of trees outside of territories up to 40" DBH under a laundry list of exceptions. We also note that the section on management requirements and best management practices addresses diameter limits, but limits that reference to PACs and territories, i.e., "xiii. Ensure PAC and Territory DBH limits are met as defined in Table 2" (review document, p. 39). These inconsistencies need to be resolved before completing the environmental analysis. To resolve this concern, we ask that the specific diameter limits reflected in Table 2 be integrated into STD-PROJ-01 in Appendix C.

We are deeply concerned about these inconsistencies in the portrayal of diameter limits in these sections. We ask that they be revised as suggested above. If the sections and Appendix C are not revised to reflect the application of the diameter limits in Table 2 across the project area, we will not be able to support the project and will need to oppose it.

VI. Regional Direction on Forest Plan Amendments for California Spotted Owl (CSO)

The proposed action and project specific forest plan amendment depart in significant ways from direction provided by the Regional Office in June 2024 on forest plan amendments that address CSO (USDA Forest Service 2024a). The departures presented in Appendix C allow for greater habitat degradation and less conservation for CSO. The plan amendment components were provided by the Regional Office in June 2024 to "ensure consistency and efficiency in project planning and Endangered Species Act consultation." (USDA Forest Service 2024b). "The amendment components were developed collaboratively based on forest plan content in the 2023 Sierra and Sequoia Forest Plans and modified based on 1) lessons learned from recent project-specific forest plan amendments, 2) feedback from internal and external engagement, and 3) the draft California Spotted Owl programmatic consultation." (Ibid.) The SERAL I and SERAL II projects were among those considered when the plan component wording was developed. Specific wording from the SERAL I and II projects was considered and rejected for inclusion in the amendment package developed by the Regional Office. The direction to use the provided language was conveyed by the Regional Forester to all units within the range of CSO on June 25, 2024 (USDA Forest Service 2024c). Lastly, this direction on project specific forest plan amendments is posted on the Region 5 planning website.

To our surprise, the response to comments document claims without reference to new memos or other documentation that in relation to CSO "There has been a change in leadership and agency direction since the MAC project scoping period." (RTC, p. 3) The information provided in the response implies that the direction issued by the Regional Office in June 2024 is no longer relevant. Please provide to us the documentation of the change in direction and the science-based reasoning used to support any change.

This claim about change in direction made in the response to comments is especially disturbing since the amendment document was developed in coordination with the US Fish and Wildlife Service, the agency who is the expert on declining and at-risk species such as CSO. The status of CSO is no less threatened than a year ago, yet the Forest Service is disregarding direction that is based on coordination with the experts on at-risk species. See for example the draft conservation measures that were developed for inclusion in the programmatic biological opinion that the

Forest Service and US Fish and Wildlife Service were working on in late 2024 (USDI Fish and Wildlife Service 2024). These conservation measures are consistent with the direction given by the Regional Office in June 2024 and not consistent with key measures included in Appendix C of the MAC project.

At a minimum, we are seeking an approach to CSO conservation that is consistent throughout its range, supported by the US Fish and Wildlife Service, and consistent with the CSO forest plan amendments issued by the Regional Office in June 2024. This reversal in the MAC project to amendment language that was never endorsed by the Regional Office and that provides less conservation for CSO is not acceptable to us.

VII. “Using Landscape Condition Metrics” (planning document)

We reviewed the document titled “Using Landscape Planning Metrics” and have questions about the section “C. California Spotted Owl Habitat” (p. 4). This section describes how CWHR was used to set priorities in the planning software ForSys. The description of how priority was set based on categories of CWHR type is not intuitive and would benefit from additional narrative. For instance, the priority values decline as habitat quality increases, i.e., the value for highest quality habitat (CWHR 5D) is the lowest numerical value. Possibly, the priority ranking here was intended to reflect priority for treatment and not for conservation, but we are not sure.

We also note that this PDF document has some formatting issues. The document is 6 pages long. However, if one looks at the “bookmarks” in the left side menu of the document, there is an extensive outline that appears to be unrelated to the 6-page document.

VIII. Appendix B – additional table

A single table (Table B-01. California Wildlife Habitat Relationship Classification) is provided in Appendix B. With the exception of the last column, this table defines the CWHR types for conifer types. Please explain the science basis for the final column “Successional Class” and explain how this definition has been used or will be used in planning.

We are especially concerned about the use of the terms “open” and “closed” and the use of 40 percent canopy cover as the break point between these two categories. The CWHR system recognizes moderate canopy closure as 40-60% canopy cover, does not use the term “closed”, and assigns a canopy cover of less than 10% to “open.”

We are aware that LANDFIRE uses 40% as the break point between “open” and “closed” for pine types (0610310 California Montane Jeffrey Pine (-Ponderosa Pine) Woodland), but for mixed conifer (0610270 Mediterranean California Dry-Mesic Mixed Conifer Forest and Woodland) the break point is 50% cover.

The distinctions here are important specifically to the management of CSO, since the 2019 conservation strategy (USDA Forest Service 2019) and the forest plan amendments developed by the Regional Office (USDA Forest Service 2024) both highlight the importance denser canopy cover.

IV. Plan Components to Improve Management in Old Forest Habitats

We raised in our scoping comments the inclusion of the following plan components in the project specific forest plan amendment to improve management of old forest habitats. Since the response to comments, dismissed these ideas without discussion we raise them again as a mechanism to reduce impacts to old forest habitat and improve the project design. The plan components below could also be added to section 2.2 Management Requirements and Best Management Practices.

Plan Component from USDA Forest Service 2024a	Direction
GDL-SNAG-01	To provide habitat for nesting, roosting, and denning wildlife, maintain a generally continuous supply of snags and live decadent trees suitable for cavity dwelling wildlife across a landscape. Retain some mid- and large diameter live trees that are currently in decline, have substantial wood defect, or that have desirable characteristics (teakettle branches, large diameter broken top, large cavities in the bole) to serve as future replacement snags and to provide nesting structure. Consider vegetation type and landscape position, potential prescribed burning and fire suppression line locations, and site conditions (such as riparian areas and ridge tops), avoiding uniformity across large areas. General guidelines for large-snag retention are as follows: · westside mixed conifer and ponderosa pine types – 25-40 of the largest snags per 10 acres · red fir forest type – 30 – 50 of the largest snags per 10 acres · eastside pine and eastside mixed conifer forest types – 15-30 of the largest snags per 10 acres · westside hardwood ecosystems – 25-40 of the largest snags (hardwood or conifer) per 10 acres Retain snags larger than 15 inches dbh (preferentially greater than 20 inches dbh) to meet this guideline. Retain snags in an irregular patchwork, with clumps and concentrations in drainages and on north- and east-facing slopes. When some snags are expected to be lost due to hazard removal or the effects of prescribed fire, consider these potential losses during project planning to achieve desired snag retention levels.
DC-OLD-01	Old-forest areas are clumps and patches of old-forest components such as old trees, snags, and large downed logs. These areas are irregularly distributed across the landscape and interspersed with

Plan Component from USDA Forest Service 2024a	Direction
	stands of younger trees, shrubs, meadows, other herbaceous vegetation, and unvegetated patches.
DC-OLD-02	The composition, structure, and functions of old forests and surrounding landscapes are resilient to fire, drought, insects, pathogens, and climate change. Fire occurs as a key ecological process in forest types that are adapted to fire, creating, restoring, and maintaining ecosystem resilience and fire-related composition and structure.
DC-OLD-03	The landscape contains a mosaic of vegetation types and structures that provide foraging and breeding habitat, movement, and connectivity for a variety of old-forest-associated species. Areas of moderate to high canopy cover composed primarily of large trees provide habitat connectivity for old-forest-associated species in key habitat corridors such as canyon bottoms and drainages.
DC-OLD-04	Old forests are composed of both vigorous trees and decadent trees. Clumps of large trees, snags, large logs, and decadent older trees are maintained on the landscape in sufficient numbers to benefit wildlife and are distributed throughout the planning area, considering constraints imposed by climate change, fire, insects, disease, and drought.
DC-OLD-05	Coarse woody debris is distributed in patches and the density of large downed logs varies by vegetation type. Surface dead wood levels are sufficient to provide for wildlife and legacy soil microbial populations.
STD-MON-01	Acres of suitable habitat treated will be tracked yearly inside and outside of territories, and owl occupancy in the project area will be monitored pre- and post-implementation following the Regional California spotted owl monitoring framework.

X. References

USDA Forest Service 2019. Conservation Strategy for the California Spotted Owl in the Sierra Nevada. Version 1.0. Pacific Southwest Region. R5-TP-043. April 2019.

USDA Forest Service 2024a. 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 **Attached to these comments as Appendix A.**

USDA Forest Service 2024b. Forest Service CSO Amendment_FactSheet_062024. Pacific Southwest Region. **Attached to these comments as Appendix B.**

USDA Forest Service 2024c. Forest Service CSO Amendment_CoverLetter_062524 Pacific Southwest Region. **Attached to these comments as Appendix C.**

USDI Fish and Wildlife Service 2024. Draft conservation measures for the programmatic biological opinion for California spotted owl. **Attached to these comments as Appendix D.**

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



Photo Credit: Gretchen Jehle

Introduction

New Best Available Scientific Information (BASI) and the cumulative effects of climate change and wildfire on California Spotted Owl (CSO) habitat has driven the need to update guidance provided in the 2004 Sierra Nevada Forest Plan Amendment (Framework). These revised management approaches are further described in the 2019 California Spotted Owl Strategy (Strategy).

The amendment components included in this document apply to forests pursuing project-specific forest plan amendments to the Framework components to conduct vegetation and fuels reduction treatments in CSO habitat. The Framework forests include the Modoc, Lassen, Plumas, Tahoe, Eldorado, and Stanislaus National Forests. Other forests in the range of the Sierra Nevada CSO Distinct Population Segment are also allowed to pursue project specific amendments using the same components; however, they will instead be amending their Land Management Plans (LMPs). LMP forests include the Lake Tahoe Basin Management Unit and the Inyo, Sierra, and Sequoia National Forests. All forests are required to reach out to the Regional Office for direction on their specific amendments.

The Forest Supervisor is the Responsible Official for projects that choose to use a project-specific forest plan amendment. Vegetation management projects are not required to include a forest plan amendment and are encouraged not to do so if project objectives can be met with the current Framework standards and guidelines. However, if a line officer chooses to amend the Framework, you must use at minimum the required set of components.

What's Changing

Two important changes from the Framework to project level content amendments include shifting from CSO Home Range Core Areas (HRCAs) to CSO Territories and the opportunity for more treatments within Protected Activity Centers (PACs). Additional modifications include new required components for locating treatments and landings, updates to limited operating periods, requirements for habitat conditions within and outside of territories, and optional project level content that could reduce impact to CSO persistence.

Document Summary

The document is broken into seven sections: (1) Specific definitions for component language, (2) CSO PACs, (3) CSO Territories, (4) Project-Wide Components, (5) Prescribed Fire, (6) Post-fire Disturbances, and (7) Monitoring. Plan components (FSH 1909.12 Sect. 22.1) are uniquely identified with a component ID designating them as a designation (DES), desired condition (DC), management object/intent (MGT), standard (STD), guideline (GDL), suitability component (SUIT), or monitoring component (MON). IDs also include the designated area or general attribute that they pertain to (i.e. TERR components apply to territories).

Each component is also identified as **Required**, **Required with Choice**, **Do Not Amend**, or **Optional**.

Required components are necessary for every project that pursues an amendment for treatments in CSO habitat. **Required with Choice** amendment components are necessary for every project, however the line officer will determine which of the two options best fit with the scope and goal of the project. Ideally, they will choose either all of option A or all of option B depending on their desired activity and likely ability to reach a FONSI. If necessary, you may choose to use some A components and some B components. **Do Not Amend**

components include existing 2004 Sierra Nevada Forest Plan Amendment components that cannot be removed for projects. Lastly, **Optional** amendment components are left to the discretion of the line officer, although they are highly recommended. Including these components will improve project alignment with the CSO Strategy and strengthen the overall project.

Appendices A and B include a list of necessary components depending on desire to pursue a align with a Not Likely to Adversely Affect designation across the project or analyze for potential significant effects. Appendix C includes a list of all the optional components. Appendix D includes a list and map of the high-risk fireheds. Appendix E includes the CWHR definitions utilized within this document.

Amendment language changes are identified in tabular form. Language removed from the 2004 Framework are identified with ~~red strikethrough~~. New/replacement language will have **red** font. Comments will be in *italics*. The new sentence requires no further editing. Hence, a sentence such as “The quick brown fox jumps over the lazy dog” can be edited to read “The brown dog chased the slow fox” using the following method:

ID	Exp-SENT-01
Action	Modify component language
Original Sentence	The quick brown fox jumps over the lazy dog.
New Sentence	<i>(If you have a fast dog)</i> The brown dog chases the slower red fox .
Reference	Adapted to correct the nonexistence of the species Brown Fox (<i>Vulpes apsens</i>) to a common Red Fox (<i>Vulpes vulpes</i>), a red fox has a top speed between 30-40 mph. A greyhound can outrun it by reaching a top speed of 45mph within 6 strides.

This document is best viewed in Web Layout format to reduce confusion of tables that extend over multiple pages. To turn on Web Layout, go to the **View** tab on the Microsoft Word Ribbon and click Web Layout, found within the Views subribbon.

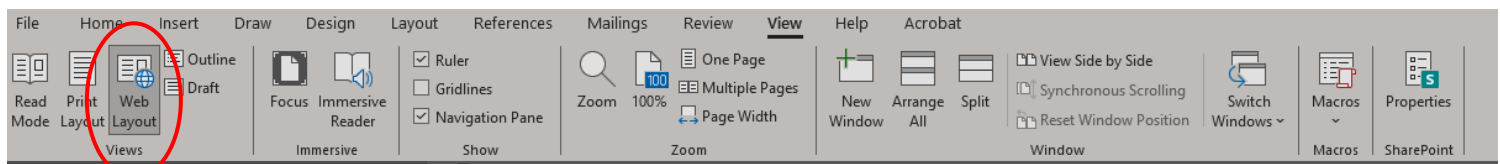


Figure 1. Location of Web Layout in Microsoft Word.

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I. SPECIFIC DEFINITIONS FOR CALIFORNIA SPOTTED OWL AMENDMENTS

Amendment components included within this document require specific language that have meanings that may differ from other documents or applications. Table 1 defines specific terms that are required for conformity to each component.

Table 1. Definitions used in amendments. Identification column shows how the term is emphasized in the components.

Term	Identification	Definition
Very large [trees]	very large	Trees 36 inches DBH or greater.
Large [trees]	large	Trees 30 inches DBH or greater. Includes very large trees.
Very large snags	very large snags	Snags 45 inches in diameter or greater.
High [canopy cover]	high	Canopy cover for the defined area is 60.0% or greater.
Moderate [canopy cover]	moderate	Canopy cover for the defined area is 40.0-59.9%.
Moderately high [canopy cover]	moderately high	Canopy cover for the defined area is 50.0-59.9%.
Highest Quality Nesting and Roosting Habitat	HQNR habitat	HQNR¹ habitat are areas preferred by CSO for nesting and roosting. It includes all of the following: a. Forests within CWHR classes 6, 5D, 5M with greater than 50 percent canopy cover; b. Trees in the dominant and co-dominant crown classes averaging 24 inches DBH or greater, c. Large and/or tall trees (greater than 150 feet tall) and some very large trees. d. High or moderately high canopy cover with areas greater than 70 percent, including hardwoods; e. Two or more tree canopy layers; and f. Contains some very large snags and snags and down woody material levels on the high end of the range appropriate for the forest type. <i>Operationally, using CWHR classes 6, 5D, and 5M when designing projects is acceptable.</i>

Best Available Nesting, Roosting, and Foraging Habitat	BANRF habitat	BANRF² habitat is important for CSO for foraging and may provide conditions that support current spotted owl reproduction in the absence of preferable HQNR. BANRF habitat include the following: a. Forests within CWHR classes of 5M, 4D, or 4M with very large remnant trees; b. Trees in the dominant and co-dominant crown classes ideally average 20 inches QMD or greater and including some large trees; c. High or moderately high canopy cover, including hardwoods, or moderate canopy cover in trees greater than 20 inches DBH where higher canopy cover is not available; BANRF habitat should be selected based on areas that may also include: d. Two or more tree canopy layers; and e. Contains some very large snags and medium to large snags and down woody materials levels as on the moderate to high end of the range appropriate for the forest type. <i>Operationally, using stands with CWHR classes 4D and 4M when designing projects is acceptable.</i>
Suitable habitat	<i>No special designation</i>	Suitable habitat for CSO includes both HQNR and BANRF habitat. Stands outside of these designations are classified as unsuitable. <i>Operationally, this includes CWHR classes 6, 5D, 5M, 4D, and 4M.</i>
Maintain habitat	<u>maintain</u>	Maintaining a habitat type will keep its habitat classification in HQNR and BANRF. Treatments may still occur, but they cannot result with the stand <u>downgrading</u> to a lower habitat type or being <u>removed</u> from suitable habitat (i.e. HQNR → HQNR, BANRF → BANRF). <i>Operationally for HQNR, CWHR classes 6, 5D, and 5M → 6, 5D, and 5M. Operationally for BANRF, CWHR classes 4D and 4M → 4D and 4M.</i>
Improve habitat	<u>improve</u>	Improving a habitat occurs when treatments improve the habitat quality via thinning or removal of smaller trees that increase overall QMD. HQNR can be improved within the HQNR classification. BANRF → HQNR. <i>Operationally for BANRF, CWHR classes 4D and 4M → 5D and 5M.</i>
Downgrade habitat	<i>Not used in components</i>	Downgrading occurs when altering a habitat so that it no longer functions in the same way pre-treatment but still serves as suitable habitat for CSO. Characterized by HQNR → BANRF. BANRF cannot be downgraded, reduction of quality results in habitat <u>removal</u>. <i>Operationally for HQNR, this occurs when CWHR classes 6, 5D, or 5M → 4D or 4M. Operationally for HQNR, this occurs when CWHR classes 4D or 4M → unsuitable habitat.</i>
Remove habitat	<i>Not used in components</i>	Habitat removal occurs when suitable habitat loses its functionality for CSO nesting, roosting, foraging, or dispersal habitat post activity. <i>Operationally, HQNR or BANRF → unsuitable habitat.</i>

Retain	<i>No special designation</i>	Retain is used in these components to keep the described element during treatments. Often this explicitly means to keep certain features (snags, clumps, large trees, corridors, etc.), but it can also be used to specify the extent, or area, of habitat that is to be kept. In these instances, treatments can still occur as long as the extent of acreage is not reduced beyond the specified threshold.
Occupancy Status		Occupancy and historical occupancy status shall be assessed as defined in the 2019 Conservation Strategy for the California Spotted Owl in the Sierra Nevada, or more current guidance provided by the Pacific Southwest region.
Unknown occupancy		Nesting and roosting habitat of unknown occupancy is a contiguous patch of at least 300 acres of HQNR or BANRF habitat not overlapping with known territories and not surveyed during the prior three years.

¹Adapted from the CSO Strategy Habitat Suitability and Quality (p. 22-23) and Approach 1: PACs 1.C and 4.C (p. 26 and 28, respectively).

²Adapted from the CSO Strategy Habitat Suitability and Quality (p. 22) and Approach 1: PACs 1.C and 4.C (p. 26 and 28, respectively).

³Adapted from the CSO Strategy Approach 1: Narrative, Paragraph 3 (p. 25).

II. PROTECTED ACTIVITY CENTERS (PACs)

1) Designation of PACs

ID	DES-PAC-01
Action	Modify component language - CSO PAC Designation
Type	Required for all amendments
Applies	PACs
Existing direction from the 2004 Framework ROD	California Spotted Owl Protected Activity Center (PACs) Designation. California spotted owl protected activity centers (PACs) are delineated surrounding each territorial owl activity center detected on National Forest System lands since 1986. Owl activity centers are designated for all territorial owls based on: (1) the most recent documented nest site, (2) the most recent known roost site when a nest location remains unknown, and (3) a central point based on repeated daytime detections when neither nest or roost locations are known. PACs are delineated to: (1) include known and suspected nest stands and (2) encompass the best available 300 acres of habitat in as compact a unit as possible. The best available habitat is selected for California spotted owl PACs to include: (1) two or more tree canopy layers; (2) trees in the dominant and co-dominant crown classes averaging 24 inches dbh or greater; (3) at least 70 percent tree canopy cover (including hardwoods); and (4) in descending order of priority, CWHR classes 6, 5D, 5M, 4D, and 4M and other stands with at least 50 percent canopy cover (including hardwoods). Aerial photography interpretation and field verification are used as needed to delineate PACs. p. 37
Project-specific plan amendment	California Spotted Owl Protected Activity Center (PACs) Designation. California spotted owl protected activity centers (PACs) are defined by the following characteristics: • National Forest System lands surrounding territorial owls based on a documented nest site; recent roost site if nest location is unknown; or central point of repeated daytime detections when neither nest nor roost locations are known. • 300 acres of nesting and roosting habitat in as compact a unit as possible, including all the elements (a through f) defined under HQNR habitat or, if HQNR is scarce, areas including at least the elements a through c listed under BANRF habitat. • Includes sites that provide the most sustainable nesting and roosting habitat that currently meets near-term habitat needs to support reproductive success and can be resilient to natural disturbances and climate change. PACs may be delineated using a variety of tools including field verification, aerial photography interpretation or other remotely sensed data as needed.
Reference	See HQNR and BANRF in Section 1 for definitions. Incorporates CSO Strategy Approach 1: PACs 1.C and 1.D (p. 26).

ID	DES-PAC-02
Action	Modify component language – CSO PAC Designation
Type	Optional
Applies	PACs
Existing direction from the 2004 Framework ROD	California Spotted Owl Protected Activity Centers Designation: PACs are maintained regardless of California spotted owl occupancy status. However, after a stand-replacing event, evaluate habitat conditions within a 1.5-mile radius around the activity center to identify opportunities for re-mapping the PAC. If there is insufficient suitable habitat for designating a PAC within the 1.5-mile radius, the PAC may be removed from the network. p. 37
Project-specific plan amendment	California Spotted Owl Protected Activity Centers Designation: PAC retirement after disturbance or long-term lack of occupancy Existing PACs and territories may not be retired unless loss of suitable habitat or long-term occupancy criteria are met as defined in the 2019 Conservation Strategy for the California Spotted Owl in the Sierra Nevada, or more current guidance for the Pacific Southwest Region. Before authorizing vegetation treatments in California spotted owl territories affected by a large-scale, high-severity disturbance event, assess habitat conditions within a 1.5-mile radius of the most recent nest (where the nest is not known, the most recent daytime roost) to determine whether to modify or retire existing PACs and territories following the 2019 Conservation Strategy for the California Spotted Owl in the Sierra Nevada, or more current guidance from the Pacific Southwest Region. If adequate suitable habitat remains, modify the boundary of the PAC to encompass the best remaining 300 acres of HQNR and BANRF habitat as per DES-PAC-01.
Reference	This was adapted from SPEC-CSO-STD 05 and 06 in the Sierra LMP (p. 65) and incorporates CSO Strategy Approach 1: PACs 3.B.1, 3.B.2, 3.C.1, 3.C.2, and 3.D (p. 27).

2) Desired Conditions and Management Intent for PACs

ID	DC-PAC-01
Action	Modify component language – PAC Desired Conditions
Type	Optional
Applies	PACs
Existing direction from the 2004 Framework ROD	California Spotted Owl Protected Activity Centers Desired Conditions: Stands in each PAC have: (1) at least two tree canopy layers; (2) dominant and co-dominant trees with average diameters of at least 24 inches DBH; (3) at least 60 to 70 percent canopy cover; (4) some very large snags (greater than 45 inches DBH); and (5) snag and down woody material levels that are higher than average. p. 37
Project-specific plan amendment	California Spotted Owl Protected Activity Centers Desired Conditions: PACs provide high-quality nesting and roosting habitat that contributes to successful reproduction of California spotted owls. PACs encompass habitat that is essential for nesting and roosting, as defined by the following characteristics: The habitat has a high canopy cover (including large clumps of more than 70 percent canopy cover), with multiple layers of tree canopy, and many large trees, very large trees, and snags (including some greater than 45 inches in diameter). Basal area and tree density tend toward the upper end of the range of desired conditions for the vegetation type. Large tree density, snag density, and coarse woody debris align with the old-forest desired conditions for the relevant forest vegetation type. <i>Operationally, this desired condition would correspond with CWHR 6 and 5D.</i>
Reference	This was adapted from SPEC-CSO-DC 01 in the Sierra LMP (p. 64) and incorporates CSO Strategy Approach 1 Narrative (p. 25).

ID	MGT-PAC-01
Action	Modify component language - Fires and Fuel Management Strategy
Type	Required for all amendments
Applies	PACs
Existing direction from the 2004 Framework ROD	Direction for locating area treatments is included in the standards and guidelines in Part D of this appendix. Treatment patterns are to be developed using a collaborative, multi-stakeholder approach. Resource considerations factored into the strategic placement of fuels treatments include objectives for locating treatments to overlap areas of condition class 2 and 3, high density stands, and pockets of insect and disease. Treatment areas are located to avoid PACs to the greatest extent possible. p. 35
Project-specific plan amendment	Direction for locating area treatments is included in the standards and guidelines in Part D of this appendix. Treatment patterns are to be developed using a collaborative, multi-stakeholder approach. Resource considerations factored into the strategic placement of fuels treatments include objectives for locating treatments to overlap areas of condition class 2 and 3, high density stands, and pockets of insect and disease. Treatment areas should only overlap PACs to the extent necessary to reduce the threat of habitat loss due to wildfire. Treatments shall avoid reducing habitat quality in the HQNR habitat within PACs.
Reference	Component edited for consistency of Framework language regarding DCs and treatments.

3) Standards and Guidelines for PACs

ID	STD-PAC-01
Action	Remove components and add new language – S&G 7 (within PACs), 72, 73, and 74.
Type	Required for all amendments
Applies	PACs
Existing direction from the 2004 Framework ROD	S&G 7. For mechanical thinning treatments in mature forest habitat (CWHR types 4M, 4D, 5M, 5D, and 6) outside WUI defense zones: • Within California spotted owl PACs: Where treatment is necessary, remove only material needed to meet project fuels objectives. Focus on removal of surface and ladder fuels. S&G 72. Mechanical treatments may be conducted to meet fuels objectives in protected activity centers (PACs) located in WUI defense zones. In PACs located in WUI threat zones, mechanical treatments are allowed where prescribed fire is not feasible and where avoiding PACs would significantly compromise the overall effectiveness of the landscape fire and fuels strategy. Mechanical treatments should be designed to maintain habitat structure and function of the PAC. S&G 73. While mechanical treatments may be conducted in protected activity centers (PACs) located in WUI defense zones and, in some cases, threat zones, they are prohibited within a 500-foot radius buffer around a spotted owl activity center within the designated PAC. Prescribed burning is allowed within the 500-foot radius buffer. Hand treatments, including handline construction, tree pruning, and cutting of small trees (less than 6 inches DBH), may be conducted prior to burning as needed to protect important elements of owl habitat. Treatments in the remainder of the PAC use the forest wide standards and guidelines for mechanical thinning. S&G 74. In PACs located outside the WUI, limit stand altering activities to reducing surface and ladder fuels through prescribed fire treatments. In forested stands with overstory trees 11 inches dbh and greater, design prescribed fire treatments to have an average flame length of 4 feet or less. Hand treatments, including handline construction, tree pruning, and cutting of small trees (less than 6 inches dbh), may be conducted prior to burning as needed to protect important elements of owl habitat. p. 50 and 60

Project-specific plan amendment	In California spotted owl PACs, all management activities must <u>maintain</u> or <u>improve</u> habitat quality in HQNR habitat by: 1. Maintaining or improving existing CWHR class (do not reduce 5D to 5M); 2. Retaining clumps of the largest available trees greater than 24 inches DBH; and 3. Retaining at least two canopy layers at the stand/patch scale in areas where large trees occur. Where necessary to increase long-term resilience, vegetation treatments that may reduce near-term habitat quality may be authorized in up to 100 acres of a PAC outside of HQNR habitat*. Throughout PACs all vegetation treatments must: • Retain the largest/oldest trees, known nest trees, and other large trees and snags with cavities, deformities, broken tops, or other habitat features of value to old forest species; • Retain connected areas of moderate (at least 40 percent) and high (at least 60 percent) canopy cover between the known nest site (if nest site is not known, use the most recent known roost site) and areas in the rest of the PAC; • Avoid mechanical treatments within a 10-acre area surrounding the most recent known nest; • Avoid creating new landings, new temporary roads, or canopy gaps larger than 0.25 acres comprising no more than 5 acres in total; • Increase the QMD of trees at the PAC scale; and • Maintain the average canopy cover of the PAC above 50 percent. Prescribed burning is allowed within the 10 acres surrounding a nest tree or structure. Pre-treatment in preparation of prescribed burning may be conducted prior to burning, as needed, including handline construction, tree pruning, and cutting of small trees (less than 8 inches DBH). Exceptions*: • This standard may be modified as specified in WUI defense zones or when constructing a fuelbreak where avoiding overlap with a PAC is not feasible. To limit fragmentation and maintain connectivity of HQNR and BANRF habitat, construction of fuelbreaks should avoid intersecting with California spotted owl PACs. Treatments in WUI defense zones and creation of a fuelbreaks must: - o Avoid the 10 acres surrounding the most recent known nest site; - o Avoid existing HQNR habitat; and - o Maintain at least 40 percent overstory canopy cover and 10 percent understory cover in shaded fuelbreaks, whenever fuels and fire behavior objectives can be met with this level of vegetation retention.
Reference	This was adapted from SPEC-CSO-STD 02 and SPEC-CSO-GDL 02 in the Sierra LMP (p. 64 and 66, respectively) and SERAL. It incorporates CSO Strategy Approach 1: Narrative Paragraph 2, PACs 4.C, 4.F, and 4.G as well as CSO Strategy Approach 2: 3.A (p. 25, 28 and 31, respectively).

Notes: Remove exceptions if they do not apply to the project. If conducting prescribed burning in PACs, use **GDL-PAC-PB** to reduce adverse significant effects. *Treatments that remove BANRF habitat from PACs will receive a Class 3 (LAA) designation per conservation measure 5 of the draft Programmatic Biological Assessment.

ID	GDL-PAC-PB
Action	Add guideline for prescribed burning
Type	Required for all projects using prescribed burning in PACs
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	S&G 74. In PACs located outside the WUI, limit stand-altering activities to reducing surface and ladder fuels through prescribed fire treatments. In forested stands with overstory trees 11 inches dbh and greater, design prescribed fire treatments to have an average flame length of 4 feet or less. Hand treatments, including handline construction, tree pruning, and cutting of small trees (less than 6 inches dbh), may be conducted prior to burning as needed to protect important elements of owl habitat. p. 60
Project-specific plan amendment	<i>If project treatment includes prescribed burning in PACs, include this language:</i> To restore forest vegetation within California spotted owl PAC, when practical based on existing conditions, use prescribed fire, alone or in combination with mechanical thinning, To minimize loss or damage to known nest and roost trees, include mitigation measures when conducting prescribed fire in PACs. To minimize impacts to overstory canopy and provide conditions for continued use for nesting and roosting within PACs, reduce fuel loads with thinning and/or prescribed burning to minimize the risk of high-severity fire and promote conditions that lead to lower intensity predicted fire effects (generally flame lengths averaging 4 to 6 feet).
Reference	This was adapted from SPEC-CSO-GDL 05 and 06 in the Sierra LMP (p. 66) and incorporates CSO Strategy Approach 1: PACs 4.D and 4.E (p. 31) and Approach 2: 7 (p. 33).

ID	STD-PAC-02
Action	Modify component language – S&G 33.
Type	Required for all amendments
Applies	PACs
Existing direction from the 2004 Framework ROD	S&G 33: Conduct surveys in compliance with the Pacific Southwest Region's survey protocols during the planning process when proposed vegetation treatments are likely to reduce habitat quality in suitable California spotted owl habitat with unknown occupancy. Designate California spotted owl protected activity centers (PACs) where appropriate based on survey results. p. 54
Project-specific plan amendment	S&G 33: Before authorizing and before implementing mechanical vegetation treatments within existing PACs or vegetation treatments in CSO nesting and roosting habitat of unknown occupancy, forests must follow current guidance for the Pacific Southwest region to: • Determine occupancy status; • Identify owl nest sites (where nest location is not known, the most recent daytime roost); and • Delineate new or modify existing PACs and territories, as necessary, within the project area.
Reference	This was adapted from SPEC-CSO-STD 01 in the Sierra LMP (p. 64) and incorporates CSO Strategy Approach 1: PACs 1.A, 3.A.1, 3.A.2, and 3.A.3 (p. 26-27).

Notes: This standard includes nesting and roosting habitat (**HQNR** and **BANRF** habitat) of unknown occupancy outside of PACs.

ID	STD-PAC-03
Action	Replace components – S&G 75 and 77
Type	Optional
Applies	PACs
Existing direction from the 2004 Framework ROD	S&G 75. For California spotted owl PACs: Maintain a limited operating period (LOP), prohibiting vegetation treatments within approximately ¼ mile of the activity center during the breeding season (March 1 through August 31), unless surveys confirm that California spotted owls are not nesting. Prior to implementing activities within or adjacent to a California spotted owl PAC and the location of the nest site or activity center is uncertain, conduct surveys to establish or confirm the location of the nest or activity center. S&G 77. The LOP may be waived for vegetation treatments of limited scope and duration, when a biological evaluation determines that such projects are unlikely to result in breeding disturbance considering their intensity, duration, timing and specific location. Where a biological evaluation concludes that a nest site would be shielded from planned activities by topographic features that would minimize disturbance, the LOP buffer distance may be modified. p. 60
Project-specific plan amendment	Limited Operating Period (LOP) To minimize disturbance that may lead to breeding failure, during the early breeding season (March 1 to July 9, or following current Pacific Southwest regional guidance) apply a LOP within 0.25 mile of the nest prohibiting: • activities that only generate noise or smoke (e.g., prescribed burning, hand thinning); • discretionary low-level helicopter flights or hovering over nests; and • discretionary landing of helicopters. For mechanical treatment, including helicopter logging, within approximately 0.25 mile of the nest or known roost site, apply a LOP during the breeding season from March 1 to August 31 or following current Pacific Southwest regional guidance. Where the location of a nest site within a PAC is unknown, apply the limited operating period to the entire PAC or determine the nest site location. Exceptions: The limited operating period may be modified or waived by the responsible official under the following circumstances: 1. Waived if monitoring or surveys indicate that nesting owls are absent (refer to current Pacific Southwest regional guidance). 2. Waived or modified for activities addressing imminent threats to life and property. 3. Waived or modified for activities of limited scope and duration, if a biologist determines that such activity is unlikely to result in breeding disturbance based on the intensity, duration, timing, and specific location. 4. The limited operating period buffer distance may be modified based upon a biologist's evaluation of the area needed to shield a nest site from disturbance considering topographic features, vegetation, or other screening. 5. Waived or modified for prescribed burning in up to 10 percent of PACs per year per national forest where necessary to facilitate the benefits of using early season prescribed fire.*

Reference	This was adapted from SPEC-CSO-GDL 08 in the Sierra LMP (p. 67) and incorporates CSO Strategy Approach 1: PACs 2A and 2B (p. 26). It also aligns with Conservation Measure 2 of the draft Programmatic Biological Assessment.
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*Early spring burning may lead to adverse effects and results in a LAA determination in the Programmatic BA.

ID	STD-PAC-04
Action	Add standard for DBH Limits in PACs
Type	Optional
Applies	PACs
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	When conducting mechanical thinning within California spotted owl PACs, retain live conifer trees greater than 20 inches DBH.
Reference	This was adapted from SERAL and reduces likelihood of significant adverse effects. Consider adding if pursuing a FONSI.

ID	GDL-PAC-01
Action	Modify component language – S&G 1.
Type	Required for all amendments
Applies	PACs
Existing direction from the 2004 Framework ROD	S&G 1. Strategic placement of fuels treatments should also consider objectives for locating treatment areas to overlap with areas of condition class 2 and 3, high density stands, and pockets of insect and disease. Avoid PACs to the greatest extent possible when locating area treatments. Incorporate areas that already contribute to wildfire behavior modification, including timber sales, burned areas, bodies of water, and barren ground, into the landscape treatment area pattern. Identify gaps in the landscape pattern where fire could spread at some undesired rate or direction and use treatments (including maintenance treatments and new fuels treatments) to fill identified gaps. p. 49

Project-specific plan amendment	S&G 1. Strategic placement of fuels treatments should also consider objectives for locating treatment areas to overlap with areas of condition class 2 and 3, high density stands, and pockets of insect and disease. Treatment areas should only overlap PACs to the extent necessary to reduce the threat of habitat loss due to wildfire. Treatments shall avoid reducing habitat quality in the HQNR habitat within PACs. Incorporate areas that already contribute to wildfire behavior modification, including timber sales, burned areas, bodies of water, and barren ground, into the landscape treatment area pattern. Identify gaps in the landscape pattern where fire could spread at some undesired rate or direction and use treatments (including maintenance treatments and new fuels treatments) to fill identified gaps.
Reference	Component edited for consistency of Framework language regarding DCs, Standards, and allowable treatments.

ID	GDL-PAC-02
Action	Replace component – S&G 71
Type	Optional
Applies	PACs
Existing direction from the 2004 Framework ROD	S&G 71. Within the assessment area or watershed, locate fuels treatments to minimize impacts to PACs. PACs may be re-mapped during project planning to avoid intersections with treatment areas, provided that the re-mapped PACs contain habitat of equal quality and include known nest sites and important roost sites. Document PAC adjustments in biological evaluations. When treatment areas must intersect PACs and choices can be made about which PACs to enter, use the following criteria to preferentially avoid PACs that have the highest likely contribution to owl productivity: • lowest contribution to productivity: PACs presently unoccupied and historically occupied by territorial singles only. • PACs presently unoccupied and historically occupied by pairs, • PACs presently occupied by territorial singles, • PACs presently occupied by pairs, • highest contribution to productivity: PACs currently or historically reproductive. Historical occupancy is considered occupancy since 1990. Current occupancy is based on surveys consistent with survey protocol (March 1992) in the last 2-3 years prior to project planning. These dates were chosen to encompass the majority of survey efforts and to include breeding pulses in the early 1990s when many sites were found to be productive. When designing treatment unit intersections with PACs, limit treatment acres to those necessary to achieve strategic placement objectives and avoid treatments adjacent to nest stands whenever possible. If nesting or foraging habitat in PACs is mechanically treated, mitigate by adding acreage to the PAC equivalent to the treated acres using adjacent acres of comparable quality wherever possible. p. 59-60
Project-specific plan amendment	To minimize potential impacts to California spotted owl reproductive success, vegetation treatments that may reduce habitat quality in the near term should be minimized or avoided in PACs with the highest likely contribution to reproductive success, otherwise occupancy status is prioritized as follows (from highest to lowest priority for treatment): 1. Currently unoccupied and historically occupied by territorial singles only. 2. Currently unoccupied and historically occupied by pairs. 3. Currently occupied by territorial singles. 4. Currently occupied by pairs. 5. Currently occupied by pairs and currently or recently reproductive.
Reference	This was adapted from SPEC-CSO-GDL 01 in the Sierra LMP (p. 66) and incorporates CSO Strategy Approach 1: Narrative (p. 25) and 4.B (p. 28).

III. CSO TERRITORIES

1) Designation: Convert Home Range Core Areas (HRCAs) to Territories

ID	DES-TERR-01
Action	Modify component language – Old Forest Ecosystem and Associated Species Strategy
Type	Required for all amendments
Applies	CSO Territories
Existing direction from the 2004 Framework ROD	A network of land allocations, including California spotted owl and northern goshawk protected activity centers (PACs), California spotted owl home range core areas , forest carnivore den sites, and the southern Sierra fisher conservation area, with management direction [...] p. 31
Project-specific plan amendment	A network of land allocations, including California spotted owl and northern goshawk protected activity centers (PACs), California spotted owl territories , forest carnivore den sites, and the southern Sierra fisher conservation area, with management direction [...]
Reference	Component edited for consistency of Framework language regarding shift from HRCAs to Territories.

ID	DES-TERR-02
Action	Modify component language – CSO HRCA Designation
Type	Required for all amendments
Applies	CSO Territories
Existing direction from the 2004 Framework ROD	California Spotted Owl Home Range Core Areas (HRCAs) Designation. A home range core area is established surrounding each territorial spotted owl activity center detected after 1986. The core area amounts to 20 percent of the area described by the sum of the average breeding pair home range plus one standard error. Home range core area sizes are as follows: 2,400 acres on the Hat Creek and Eagle Lake Ranger Districts of the Lassen National Forest, 1,000 acres on the Modoc, Inyo, Humboldt-Toiyabe, Plumas, Tahoe, Eldorado, Lake Tahoe Basin Management Unit and Stanislaus National Forests and on the Almanor Ranger District of Lassen National Forest, and 600 acres of the Sequoia and Sierra National Forests. Aerial photography is used to delineate the core area. Acreage for the entire core area is identified on national forest lands. Core areas encompass the best available California spotted owl habitat in the closest proximity to the owl activity center. The best available contiguous habitat is selected to incorporate, in descending order of priority, CWHR classes 6, 5D, 5M, 4D and 4M and other stands with at least 50 percent tree canopy cover (including hardwoods). The acreage in the 300-acre PAC counts toward the total home range core area. Core areas are delineated within 1.5 miles of the activity center.

	When activities are planned adjacent to non-national forest lands, circular core areas are delineated around California spotted owl activity centers on non-national forest lands. Using the best available habitat as described above, any part of the circular core area that lies on national forest lands is designated and managed as a California spotted owl home range core area. p. 39
Project-specific plan amendment	California Spotted Owl Territories Designation Territories are defined by the following characteristics: A 1,000-acre circle, which includes the 300-acre PAC, surrounding territorial owls, centered on a documented nest site or roost site if nest location is unknown or central point of repeated daytime detections when neither nest nor roost locations are known. • Territory boundaries should include the entire PAC and be adjusted to include suitable habitat in the most sustainable areas (moist vegetation types and site conditions, often in drainages or on north-facing slopes) and to exclude unsuitable habitat. • Contains diverse structural and seral conditions to facilitate nesting, roosting, and foraging. • May overlap adjacent territories. • Territories are established and retired together with PACs. <i>Contextually required for all projects that are adjacent to non-national forest lands that have known CSO nest sites:</i> When activities are planned adjacent to non-national forest lands containing known CSO nest stands, a 1,000-acre circle territory should be delineated around known CSO activity centers on non-national forest lands. Any part of the circular core area that lies on national forest lands is designated and managed as a CSO territory.
Reference	Incorporates CSO Strategy Approach 1: Narrative (p. 25) and Territory/Watershed 1.A and 1.B (p. 28). Distinction of 800 acres are not included for the Inyo, Sierra, and Sequoia NFs because they have completed LMP revisions. Contextually required language comes from the SERAL project.

2) Desired Conditions and Management Objectives

IMPORTANT: Select either **DC-TERR-1A** or **DC-TERR-1B** depending on your preference for discretion with likelihood to increase adverse effects.

ID	DC-TERR-1A
Action	Replace HRCA desired condition with Territory desired condition
Type	Required for all amendments – less likely for adverse effects. For more discretion with likely adverse effects, use DC-TERR-1B (below).
Applies	CSO Territories
Existing direction from the 2004 Framework ROD	California Spotted Owl Home Range Core Areas (HRCAs) Desired Conditions HRCAs consist of large habitat blocks that have: (1) at least two tree-canopy layers; (2) at least 24 inches DBH in dominant and co-dominant trees; (3) a number of very large (greater than 45 inches DBH) old trees; (4) at least 50 to 70 percent canopy cover; and (5) higher than average levels of snags and down woody material. p. 40 (repeated on p. 46) California Spotted Owl Home Range Core Areas (HRCAs) Management Objectives: Establish and maintain a pattern of fuels treatments that is effective in modifying wildfire behavior. Design treatments in HRCAs to be economically efficient and to promote forest health where consistent with habitat objectives. California Spotted Owl Home Range Core Areas (HRCAs) Management Intent: Treat fuels using a landscape approach for strategically placing area treatments to modify fire behavior. Retain existing suitable habitat, recognizing that habitat within treated areas may be modified to meet fuels objectives. Accelerate development of currently unsuitable habitat (in non-habitat inclusions, such as plantations) into suitable condition. Arrange treatment patterns and design treatment prescriptions to avoid the highest quality habitat (CWHR types 5M, 5D, and 6) wherever possible. p. 46
Project-specific plan amendment	California Spotted Owl Territories Desired Conditions At least 60 percent of each California spotted owl territory, including the PAC, consists of HQNR habitat in large enough patches to provide interior stand conditions (generally 1 to 2 tree heights from an edge) surrounded by BANRF, preferably with a greater proportion of HQNR to BANRF, particularly closer to the nest. The remainder of the territory consists of a diversity of many different structure and canopy classes. For areas where multiple territories comprise over 75 percent of a watershed (typically a HUC 12 unit and greater than 10,000 acres in size) at least 30-50 percent of the watershed consists of the HQNR and BANRF habitat and the remainder of the territory consists of a diversity of many different structure and canopy classes.

OR

ID	DC-TERR-1B
Action	Replace HRCA desired condition with Territory desired condition
Type	Required for all amendments – more likely to have adverse effects. Use DC-TERR-1A instead (above) if trying to reach a FONSI.
Applies	CSO Territories
Existing direction from the 2004 Framework ROD	California Spotted Owl Home Range Core Areas (HRCAs) Desired Conditions HRCAs consist of large habitat blocks that have: (1) at least two tree canopy layers; (2) at least 24 inches DBH in dominant and co-dominant trees; (3) a number of very large (greater than 45 inches DBH) old trees; (4) at least 50 to 70 percent canopy cover; and (5) higher than average levels of snags and down woody material. p. 40 (repeated on p. 46) California Spotted Owl Home Range Core Areas (HRCAs) Management Objectives: Establish and maintain a pattern of fuels treatments that is effective in modifying wildfire behavior. Design treatments in HRCAs to be economically efficient and to promote forest health where consistent with habitat objectives. California Spotted Owl Home Range Core Areas (HRCAs) Management Intent: Treat fuels using a landscape approach for strategically placing area treatments to modify fire behavior. Retain existing suitable habitat, recognizing that habitat within treated areas may be modified to meet fuels objectives. Accelerate development of currently unsuitable habitat (in non-habitat inclusions, such as plantations) into suitable condition. Arrange treatment patterns and design treatment prescriptions to avoid the highest quality habitat (CWHR types 5M, 5D, and 6) wherever possible. p. 46
Project-specific plan amendment	California Spotted Owl Territories Desired Conditions At least 50 to 60 percent (depending on the terrestrial vegetation type and site conditions) of each California spotted owl territory, including the PAC, consists of HQNR habitat in large enough patches to provide interior stand conditions (generally 1 to 2 tree heights from an edge) surrounded by BANRF, preferably with a greater proportion of HQNR to BANRF, particularly closer to the nest. The remainder of the territory consists of a diversity of many different structure and canopy classes. For areas where multiple territories comprise over 75 percent of a watershed (typically a HUC 12 unit and greater than 10,000 acres in size) at least 30-50 percent of the watershed consists of the HQNR and BANRF habitat and the remainder of the territory consists of a diversity of many different structure and canopy classes.
Reference	This was adapted from SPEC-CSO-DC 02 in the Sierra LMP (p. 64) and incorporates CSO Strategy Approach 1: Territory/Watershed 2A (p. 26). It aligns with Conservation Measure number 6 in the Draft Programmatic Biological Assessment.

3) S&G: Treatments within Territories

IMPORTANT: Select either **STD-TERR-1A** or **STD-TERR-1B** depending on your preference for discretion with likelihood to increase adverse effects.

ID	STD-TERR-1A
Action	Replace component language – S&G 7.
Type	Required for all amendments – less likely for adverse effect. For more discretion with likely adverse effects, use STD-TERR-1B (below).
Applies	CSO Territories
Existing direction from the 2004 Framework ROD	S&G 7. For mechanical thinning treatments in mature forest habitat (CWHR types 4M, 4D, 5M, 5D, and 6) outside WUI defense zones: • Design projects to retain at least 40 percent of the existing basal area. The retained basal area should generally be comprised of the largest trees. • Where available, design projects to retain 5 percent or more of the total treatment area in lower layers composed of trees 6 to 24 inches dbh within the treatment unit. • Design projects to avoid reducing pre-existing canopy cover by more than 30 percent within the treatment unit. Percent is measured in absolute terms (for example, canopy cover at 80 percent should not be reduced below 50 percent.) • Within treatment units, at a minimum, the intent is to provide for an effective fuels treatment. Where existing vegetative conditions are at or near 40 percent canopy cover, projects are to be designed remove the material necessary to meet fire and fuels objectives. • Within California spotted owl Home Range Core Areas: Where existing vegetative conditions permit, design projects to retain at least 50 percent canopy cover averaged within the treatment unit. Exceptions are allowed in limited situations where additional trees must be removed to adequately reduce ladder fuels, provide sufficient spacing for equipment operations, or minimize re-entry. Where 50 percent canopy cover retention cannot be met for reasons described above, retain at least 40 percent canopy cover averaged within the treatment unit. • Outside of California spotted owl Home Range Core Areas: Where existing vegetative conditions permit, design projects to retain at least 50 percent canopy cover within the treatment unit. Exceptions are allowed where project objectives require additional canopy modification (such as the need to adequately reduce ladder fuels, provide for safe and efficient equipment operations, minimize re-entry, design cost efficient treatments, and/or significantly reduce stand density.) Where canopy cover must be reduced below 50 percent, retain at least 40 percent canopy cover averaged within the treatment unit. p. 50-51
Project-specific plan amendment	1. When a territory contains less than 60 percent HQNR and BANRF habitat, <u>maintain or improve</u> all HQNR and BANRF habitat wherever it exists throughout the territory. 2. When a territory contains 60 percent or more HQNR and BANRF habitat, retain¹ at least 60% suitable habitat. Treatments will promote heterogenous structure across the territory and prioritize <u>maintaining or improving</u> HQNR habitat in drainages and north- or east-facing slopes.

¹ Retain refers to the extent of habitat. It does not prevent treatments.

OR

ID	STD-TERR-1B
Action	Replace component language – S&G 7.
Type	Required for all amendments – more likely to have adverse effects. Use STD-TERR-1A instead (above) if trying to reach a FONSI.
Applies	CSO Territories
Existing direction from the 2004 Framework ROD	S&G 7. For mechanical thinning treatments in mature forest habitat (CWHR types 4M, 4D, 5M, 5D, and 6) outside WUI defense zones: • Design projects to retain at least 40 percent of the existing basal area. The retained basal area should generally be comprised of the largest trees. • Where available, design projects to retain 5 percent or more of the total treatment area in lower layers composed of trees 6 to 24 inches dbh within the treatment unit. • Design projects to avoid reducing pre-existing canopy cover by more than 30 percent within the treatment unit. Percent is measured in absolute terms (for example, canopy cover at 80 percent should not be reduced below 50 percent.) • Within treatment units, at a minimum, the intent is to provide for an effective fuels treatment. Where existing vegetative conditions are at or near 40 percent canopy cover, projects are to be designed remove the material necessary to meet fire and fuels objectives. • Within California spotted owl Home Range Core Areas: Where existing vegetative conditions permit, design projects to retain at least 50 percent canopy cover averaged within the treatment unit. Exceptions are allowed in limited situations where additional trees must be removed to adequately reduce ladder fuels, provide sufficient spacing for equipment operations, or minimize re-entry. Where 50 percent canopy cover retention cannot be met for reasons described above, retain at least 40 percent canopy cover averaged within the treatment unit. • Outside of California spotted owl Home Range Core Areas: Where existing vegetative conditions permit, design projects to retain at least 50 percent canopy cover within the treatment unit. Exceptions are allowed where project objectives require additional canopy modification (such as the need to adequately reduce ladder fuels, provide for safe and efficient equipment operations, minimize re-entry, design cost efficient treatments, and/or significantly reduce stand density.) Where canopy cover must be reduced below 50 percent, retain at least 40 percent canopy cover averaged within the treatment unit. p. 50-51

Project-specific plan amendment	1. In California spotted owl territories that do not currently meet the territory desired condition (DC-TERR-01B), <u>maintain or improve</u> all HQNR and BANRF habitat wherever it exists throughout the territory. 2. If DC-TERR-01 has been met, a. When a territory consists of a majority of moist habitat types¹ and contains 60 percent or more HQNR and BANRF habitat, retain² at least 60% suitable habitat. Treatments will promote heterogenous structure across the territory and prioritize <u>maintaining or improving</u> HQNR habitat in drainages and north- or east-facing slopes. b. When a territory consists of a majority of moist habitat types¹ and contains less than 60 percent HQNR and BANRF habitat, <u>maintain or improve</u> all HQNR and BANRF habitat wherever it exists throughout the territory. Treatments will promote heterogenous structure across the territory. c. When a territory consists of a majority of dry habitat types¹ and contains 60% or more HQNR and BANRF habitat, retain² at least 50% suitable habitat. Treatments will promote heterogenous structure across the territory and prioritize <u>maintaining or improving</u> HQNR habitat in drainages and north- or east-facing slopes. d. When a territory consists of a majority of dry habitat types¹ and contains less than 60 percent HQNR and BANRF habitat, <u>maintain or improve</u> all HQNR habitat wherever it exists throughout the territory, and retain² at least 50 percent of suitable habitat. Treatments will promote heterogenous structure across the territory. Exception: • For territories occurring in WUI defense zones, within high risk fireshed areas³, or in territories that contain unavoidable placement of fuelbreaks, retain² at least 40 percent of the territory (including the PAC) in suitable habitat. Treatments will promote heterogenous structure across the territory and prioritize <u>maintaining or improving</u> HQNR habitat in drainages and north- or east-facing slopes.
Reference	This was adapted from various components in the Sierra LMP and incorporates CSO Strategy Approach 2: 1.A.1 (p. 30).

¹Moist and dry habitat types can be determined based on vegetation type or physiographical attributes such as ridge tops and south or west facing slopes for dry territories and drainages and north or west facing slopes for moist.

² Retain refers to the extent of habitat. It does not prevent treatments.

³ High risk fireshed areas are Fireshed Registry Project Areas (areas delineated by regular-sized units as specified in [RMRS-GTR-425](#)) that have a Managed Stands Average Annual Exposure greater than or equal to 3.0. For a list of these areas, see Table D1 and Figure D1.

ID	STD-TERR-02
Action	Add new standard.
Type	Required for all amendments
Applies	CSO Territories
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	When mechanical treatments create canopy gaps within California spotted owl territories, but outside of PACs, individual openings shall not exceed 1.25 acres (and should generally not exceed 0.5 acre) and shall not comprise more than 30 percent of the total area in the territory. This includes openings created for the construction of landings or temporary roads (restricted to 1.0 mile or less).
Reference	This was adapted from SPEC-CSO-STD 04 in the Sierra LMP (p. 65) and incorporates CSO Strategy Approach 2: 1.A.2 (p. 31).

ID	GDL-TERR-01
Action	Add new guideline.
Type	Required for all amendments
Applies	Territory or Project Area
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	To promote high-quality nesting and denning habitat for old-forest-associated species, thinning in CSO territories to increase heterogeneity and resilience should retain the oldest and largest trees and large trees with habitat features (such as deformities, broken tops, large branches, and cavities) that benefit these wildlife species. Desired conditions for large tree density vary by vegetation type and site conditions.
Reference	This was adapted from TERR-OLD-GDL 01 in the Sierra LMP (p. 45) and incorporates CSO Strategy Approach 2: 3.A, 3.B, and 3.C (p. 31). This guideline can be expanded to the landscape scale within mature/old forest (5D/5M and 4D/4M) to align with the Sierra LMP.

Notes: To reduce likelihood of significant adverse effects, consider expanding the guideline for the project area (within 4M, 4D, 5M, and 5D) and not limit guideline solely to territories.

ID	GDL-TERR-02
Action	Add new guideline.
Type	Required for all amendments
Applies	CSO Territories
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	To facilitate development of future nest sites, vegetation treatments in California spotted owl territories should: • Promote growth of trees greater than 24 inches DBH and especially large trees, and • Retain clumps or groups of trees greater than 24 inches DBH and/or 100 feet tall, and especially trees greater than 30 inches DBH and/or 150 feet tall, with canopy cover greater than 60 to 70 percent.
Reference	This was adapted from SPEC-CSO-GDL 03 in the Sierra LMP (p. 66) and incorporates CSO Strategy Approach 1: Territory/Watershed Scale 2.C.1, 2.C.2, and 2.C.3 (p. 29).

ID	GDL-TERR-03
Action	Add guideline for DBH Limits in Territories
Type	Optional
Applies	CSO Territories
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	When conducting mechanical thinning treatments in California spotted owl territories, retain live shade-intolerant conifers greater than 24 inches DBH.
Reference	This was adapted from SERAL and reduces likelihood of significant adverse effects. Consider adding if pursuing a FONSI.

IV. PROJECT-WIDE COMPONENTS

1) Desired Conditions

ID	DC-SNAG-01
Action	Add desired conditions for large snags
Type	Optional
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	Large snags are scattered across the landscape, generally occurring in clumps rather than uniformly and evenly distributed, meeting the needs of species that use snags and providing for future downed logs.
Reference	This was adapted from TERR-OLD-DC 06 in the Sierra LMP (p. 45) and incorporates CSO Strategy Approach 2: 3A (p. 31).

ID	DC-ECOS-01
Action	Add desired conditions for ecosystems
Type	Optional
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	Persistent populations of native, and desirable nonnative, plant and animal species are supported by healthy ecosystems, essential ecological processes, and land stewardship activities, and reflect the diversity, quantity, quality, and capability of natural habitats on the Forest. These ecosystems are also resilient to uncharacteristic fire, climate change, and other stressors, and this resilience supports the long-term sustainability of plant and animal communities.
Reference	This was adapted from SPEC-FW-DC 01 in the Sierra LMP (p. 48) and incorporates CSO Strategy Approach 1: Narrative (p. 25) and Approach 2: Narrative (p. 29-30).

ID	DC-ECOS-02
Action	Add desired conditions for ecological conditions
Type	Optional
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	Ecological conditions for at-risk species support self-sustaining populations within the inherent capabilities of the plan area, including minimizing impacts from threats (such as disease and other site-specific threats). Ecological conditions provide habitat conditions that • contribute to the survival, recovery, and delisting of species under the Endangered Species Act; • preclude the need for listing new species; • and improve conditions for species of conservation concern.
Reference	This was adapted from SPEC-FW-DC 02 in the Sierra LMP (p. 48) and incorporates CSO Strategy Approach 1: Narrative (p. 25).

ID	DC-OLD-01
Action	Add desired conditions for old forest
Type	Optional
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	Old-forest areas are clumps and patches of old-forest components such as old trees, snags, and large downed logs. These areas are irregularly distributed across the landscape and interspersed with stands of younger trees, shrubs, meadows, other herbaceous vegetation, and unvegetated patches.
Reference	This was adapted from TERR-OLD-DC 03 in the Sierra LMP (p. 44) and incorporates CSO Strategy Approach 2: Narrative (p. 29-30), 1.A (p. 30-31), and 3A-D (p. 31-32).

ID	DC-OLD-02
Action	Add desired conditions for old forest
Type	Optional
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	The composition, structure, and functions of old forests and surrounding landscapes are resilient to fire, drought, insects, pathogens, and climate change. Fire occurs as a key ecological process in forest types that are adapted to fire, creating, restoring, and maintaining ecosystem resilience and fire-related composition and structure.
Reference	This was adapted from TERR-OLD-DC 01 in the Sierra LMP (p. 44) and incorporates CSO Strategy Approach 2: Narrative (p. 29-30).

ID	DC-OLD-03
Action	Add desired conditions for old forest
Type	Optional
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	The landscape contains a mosaic of vegetation types and structures that provide foraging and breeding habitat, movement, and connectivity for a variety of old-forest-associated species. Areas of moderate to high canopy cover composed primarily of large trees provide habitat connectivity for old-forest-associated species in key habitat corridors such as canyon bottoms and drainages.
Reference	This was adapted from TERR-OLD-DC 02 in the Sierra LMP (p. 44) and incorporates CSO Strategy Approach 2: Narrative (p. 29-30).

ID	DC-OLD-04
Action	Add desired conditions for old forest
Type	Optional
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	Old forests are composed of both vigorous trees and decadent trees. Clumps of large trees, snags, large logs, and decadent older trees are maintained on the landscape in sufficient numbers to benefit wildlife and are distributed throughout the planning area, considering constraints imposed by climate change, fire, insects, disease, and drought.
Reference	This was adapted from TERR-OLD-DC 05 in the Sierra LMP (p. 45) and incorporates CSO Strategy Approach 2: Narrative (p. 29-30), 1.A (p. 30-31), and 3A-D (p. 31-32).

ID	DC-OLD-05
Action	Add desired conditions for old forest
Type	Optional
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	Coarse woody debris is distributed in patches and the density of large downed logs varies by vegetation type. Surface dead wood levels are sufficient to provide for wildlife and legacy soil microbial populations.
Reference	This was adapted from TERR-OLD-DC 07 in the Sierra LMP (p. 45) and incorporates CSO Strategy Approach 2: 5.A (p. 32).

ID	DC-OLD-06
Action	Add desired conditions for old trees
Type	Optional
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	For mechanical thinning treatments in mature forest habitat (CWHR classes 4M, 4D, 5M, 5D, and 6) outside WUI defense zones: Where old trees larger than 24 inches DBH exist, the number and density of old trees vary by topographic position and soil moisture. In general, more large and old trees are found on moister sites; on lower slopes, bottoms, and north and east aspects, especially where soils are deeper. Large trees are well distributed but are often clumpy. The densities vary by forest type. Trees greater than 40 inches DBH, generally over 150 years old, represent the oldest trees, and comprise a significant proportion of large and old trees. In areas of high soil productivity, trees may grow to large sizes in fewer than 100 years. On low and very low soil productivity sites, the oldest trees may be smaller in diameter. Enough younger trees are present to provide for recruitment of old trees over time.
Reference	This was adapted from TERR-OLD-DC 04 in the Sierra LMP (p. 44-45) and incorporates CSO Strategy Approach 2: 1.A, 2, and 3 (p. 30-31).

ID	MAN-NEST-01
Action	Add desired conditions for CSO nest sites across landscape
Type	Optional
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	The _____ National Forest supports conditions for a sustainable network of dynamic, resilient, and widely distributed California spotted owl nest or roost sites and habitat across heterogeneous landscapes.
Reference	Adapted from the CSO Strategy Desired Conservation Outcomes (p. 20) and Approach 1 Narrative, Paragraph 2 (p. 25).

2) Project-wide Standards and Guidelines

IMPORTANT: Select either **STD-DBH-1A** or **STD-DBH-1B** depending on your preference for discretion with likelihood to increase adverse effects.

ID	STD-PROJ-1A
Action	Modify component language – S&G 6.
Type	Required for all amendments – <u>less likely for adverse effect.</u> For more discretion with likely adverse effects, use STD-PROJ-1B (below).
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	S&G 6. For all mechanical thinning treatments, design projects to retain all live conifers 30 inches DBH or larger. Exceptions are allowed to meet needs for equipment operability. p. 50
Project-specific plan amendment	S&G 6. For all thinning treatments, retain live conifer trees greater than 30 inches DBH except in the case of imminent threat to life and property. When required and on an incidental basis, individual trees less than 35 inches DBH may be removed for equipment operability.

OR

ID	STD-PROJ-1B
Action	Modify component language – S&G 6.
Type	Required for all amendments – more likely to have adverse effects. Use STD-PROJ-1A instead (above) if trying to reach a FONSI.
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	S&G 6. For all mechanical thinning treatments, design projects to retain all live conifers 30 inches DBH or larger. Exceptions are allowed to meet needs for equipment operability. p. 50
Project-specific plan amendment	S&G 6. For all treatments, design projects to retain live conifer trees greater than 30 inches DBH except in the case of imminent threat to life and property, or if one of the conditions below is met: a) When required for equipment operability, individual trees less than 35 inches DBH may be removed on an incidental basis. b) Outside of California spotted owl territories and where necessary to move towards vegetation desired conditions, live trees greater than 30 inches but less than 40 inches DBH may be felled to create coarse woody debris (where it's lacking), or removed, under the following limited circumstances: - o When removing trees is needed for aspen, oak, or meadow restoration treatments or for cultural or Tribal importance. - o In overly-dense stands to favor retention or promote the growth of even larger or older shade-intolerant trees. - o To improve the growth and vigor of rust-resistant sugar pine trees greater than 16 inches DBH by reducing competition from surrounding trees; or - o Within homogeneous plantations, to reduce loss of large trees due to competition in overly dense stands.
Reference	This was adapted from TERR-FW-STD 01 in the Sierra LMP (p. 27) and incorporates CSO Strategy Approach 2: 3.D (p. 32).

ID	STD-PROJ-02
Action	Add new standard.
Type	Required for all amendments
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	Known nest, roost, rest, or den trees used by at-risk species, including surrounding trees that provide beneficial thermal or predatory protection, must not be purposefully removed, except for the reasonably unavoidable removal of hazard trees and as required to meet other State or Federal regulatory requirements.
Reference	This was adapted from SPEC-FW-GDL 02 in the Sierra LMP (p. 49) and incorporates CSO Strategy Approach 1 Introduction (p. 25).

ID	GDL-PROJ-01
Action	Add new guideline.
Type	Required for all amendments
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	To promote habitat connectivity at the watershed scale, when conducting vegetation treatments in California spotted owl territories, retain connected areas of moderate and high canopy cover in large /tall trees.
Reference	This was adapted from SPEC-CSO-GDL 04 in the Sierra LMP (p. 66) and incorporates CSO Strategy Approach 1: Territory/Watershed Scale 2.C (p. 29).

ID	GDL-PROJ-02
Action	Add new guideline.
Type	Required for all amendments
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	To provide for continued availability of patches of nesting, roosting, and foraging habitat (6, 5D, 5M, and 4D in descending order of priority), in ecologically sustainable areas, consider aspect and position on slope as follows: • On north and east facing slopes, drainages, swales and canyon bottoms – when conducting treatments to improve resilience – maintain patches of large/tall trees with moderate and high canopy cover large enough to provide beneficial thermal or predatory protection, amongst more heterogenous conditions. To facilitate movement, retain connectivity between patches when possible. • On south- and west-facing slopes and on ridges, prioritize restoration toward forest conditions resistant to stressors.
Reference	This was adapted from various components in the Sierra LMP and incorporates CSO Strategy Approach 2: 1.A.1 (p. 30).

ID	GDL-PROJ-03
Action	Add guideline for old forest connectivity
Type	Required for all amendments
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	<i>S&G 27-31 pertain to old growth forest and are similar in intent – consider whether to add or replace them with amendment.</i> S&G 27. Minimize old forest habitat fragmentation. Assess potential impacts of fragmentation on old forest associated species (particularly fisher and marten) in biological evaluations. S&G 28. Assess the potential impact of projects on the connectivity of habitat for old forest associated species. S&G 29. Consider retaining forested linkages (with canopy cover greater than 40 percent) that are interconnected via riparian areas and ridgetop saddles during project-level analysis. S&G 30. If fishers are detected outside the southern Sierra fisher conservation area, evaluate habitat conditions and implement appropriate mitigation measures to retain suitable habitat within the estimated home range. Institute project-level surveys over the appropriate area, as determined by an interdisciplinary team. S&G 31. Identify areas for acquisition, exchange, or conservation easements to enhance connectivity of habitat for old forest associated species. p. 50-51
Project-specific plan amendment	To promote connectivity of old-forest habitat by prioritizing restoration-focused treatments in areas between isolated old-forest patches, avoid creating large areas of open canopy habitat (vegetation cover less than 30 percent) that would isolate patches of old, dense forest and limit wildlife movement.
Reference	This adapted from SPEC-CSO-GDL 04 in the Sierra LMP (p. 66) and incorporates CSO Strategy Approach 1: Territory 2.C (p. 29).

ID	STD-SNAG-01
Action	Add standard for snag retention
Type	Optional
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	Retain all snags greater than 45 inches diameter unless they pose a threat to life or property.
Reference	This was adapted from SPEC-CSO-DC 01 in the Sierra LMP (p. 64).

ID	GDL-SNAG-01
Action	Modify guideline for snag retention
Type	Optional
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	S&G 11. Determine snag retention levels on an individual project basis for vegetation treatments. Design projects to implement and sustain a generally continuous supply of snags and live decadent trees suitable for cavity nesting wildlife across a landscape. Retain some mid- and large diameter live trees that are currently in decline, have substantial wood defect, or that have desirable characteristics (teakettle branches, large diameter broken top, large cavities in the bole) to serve as future replacement snags and to provide nesting structure. When determining snag retention levels and locations, consider land allocation, desired condition, landscape position, potential prescribed burning and fire suppression line locations, and site conditions (such as riparian areas and ridge tops), avoiding uniformity across large areas. General guidelines for large snag retention are as follows: • westside mixed conifer and ponderosa pine types—four of the largest snags per acre • red fir forest type—six of the largest snags per acre • eastside pine and eastside mixed conifer forest types—three of the largest snags per acre • westside hardwood ecosystems—four of the largest snags (hardwood or conifer) per acre ○ where standing live hardwood trees lack dead branches—six of the largest snags per acre (where they exist to supplement wildlife needs for dead material). Use snags larger than 15 inches dbh to meet this guideline. Snags should be clumped and distributed irregularly across the treatment units. Consider leaving fewer snags strategically located in treatment areas within the WUI. When some snags are expected to be lost due to hazard removal or the effects of prescribed fire, consider these potential losses during project planning to achieve desired snag retention levels. p. 51-52

Project-specific plan amendment	S&G 11. To provide habitat for nesting, roosting, and denning wildlife, maintain a generally continuous supply of snags and live decadent trees suitable for cavity dwelling wildlife across a landscape. Retain some mid- and large diameter live trees that are currently in decline, have substantial wood defect, or that have desirable characteristics (teakettle branches, large diameter broken top, large cavities in the bole) to serve as future replacement snags and to provide nesting structure. Consider vegetation type and landscape position, potential prescribed burning and fire suppression line locations, and site conditions (such as riparian areas and ridge tops), avoiding uniformity across large areas. General guidelines for large-snag retention are as follows: • westside mixed conifer and ponderosa pine types – 25-40 of the largest snags per 10 acres • red fir forest type – 30 – 50 of the largest snags per 10 acres • eastside pine and eastside mixed conifer forest types – 15-30 of the largest snags per 10 acres • westside hardwood ecosystems – 25-40 of the largest snags (hardwood or conifer) per 10 acres Retain snags larger than 15 inches dbh (preferentially greater than 20 inches dbh) to meet this guideline. Retain snags in an irregular patchwork, with clumps and concentrations in drainages and on north- and east-facing slopes. When some snags are expected to be lost due to hazard removal or the effects of prescribed fire, consider these potential losses during project planning to achieve desired snag retention levels.
Reference	This incorporates CSO Strategy Approach 2: 3A-D (p. 31-32).

3) Forest-wide Production Suitability

ID	SUIT-CSO-01
Action	Add timber suitability
Type	Optional
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	California spotted owl PACs are not suitable for timber production. Timber harvest may be authorized for safety and restoration toward desired conditions.
Reference	36 CFR 219.15(d)(4)

V. PRESCRIBED FIRE

ID	GDL-RXB-01
Action	Add guideline for prescribed burning
Type	Optional
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	[None]

Project-specific plan amendment	Firing patterns, burn unit layout, and other firing and holding methods during burning should limit the killing of large old trees and loss of very large snags. Consider preventing delayed tree mortality caused by smoldering at the base of large old trees and consider constructing fireline around large old trees and very large snags to reduce the risk of tree ignition while addressing firefighter safety. Limit fire intensity in areas with large old trees and very large snags where possible. OR To retain large old trees and very large snags important to old forest associated species, where possible given firefighter safety, prescribed burning operations should: • construct fireline around large trees and very large snags where appropriate; • develop firing patterns, burn unit layout, and firing and holding methods to: • avoid igniting large trees and very large snags; • limit fire intensity in areas with large old trees and very large snags. <i>Both have the same intent.</i>
Reference	This was adapted from TERR-OLD-GDL 02 in the Sierra LMP (p. 107) and incorporates CSO Strategy Approach 2: 3 (p. 31).

Notes: Treatments with prescribed burning and retention of nest trees and snags are not adequately considered in the Framework . Existing components limited thinning to 6” or less with no indication of spatial extent. Burning standards and guidelines are added to direct operations that help produce DCs and management objectives within CSO PACs and Territories that provide the beneficial future habitat.

ID	GDL-RXB-02
Action	Add guideline for prescribed burning
Type	Optional
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	To minimize the spatial extent of high-severity fire impacts on habitat in California spotted owl territories, when implementing prescribed fire in the portion of the territory outside of the PAC, limit the size of high-severity burn patches to generally not exceed 10 acres and to avoid exceeding 100 acres.
Reference	This was adapted from SPEC-CSO-GDL 07 in the Sierra LMP (p. 66) and incorporates CSO Strategy Approach 2: 6.C.2 (p. 33).

VI. POST-FIRE DISTURBANCE

ID	DC-FIRE-01
Action	Add desired conditions for forests post-fire
Type	Optional
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	[None]
Project-specific plan amendment	To provide future habitat for old-forest-associated species following a large-scale, high-severity disturbance in an area that had large trees and high canopy cover prior to the disturbance, identify, retain and promote the best available patches of remaining high-quality nesting, foraging, and denning habitat (6, 5D, 5M, 4D, 4M in descending order of priority). Desired conditions for amount, location, and configuration of retention should be informed by site conditions, aspect, position on slope, and the potential to restore habitat connectivity. Exception: Modify as needed in WUI defense.
Reference	This was adapted from MA-WHMA-GDL 01 in the Sierra LMP (p. 107) and incorporates CSO Strategy Approach 2: 7 (p. 33).

ID	STD-DNA-01
Action	Do Not Amend
Type	Amendments Not Optional (Do Not Amend)
Applies	Entire Project Area
Existing direction from the 2004 Framework ROD	S&G 16. Outside of WUI defense zones, salvage harvests are prohibited in PACs and known den sites unless a biological evaluation determines that the areas proposed for harvest are rendered unsuitable for the purpose they were intended by a catastrophic stand-replacing event. p. 53
Reference	See DES-PAC-02 for more information on retiring PACs prior to salvage harvest.

VII. MONITORING

ID	STD-MON-01
Action	Add monitoring standard
Type	Optional
Applies	Large landscape projects are strongly recommended, but not required, include this component. Work with the RO to determine if the component should be included.
Project-specific plan amendment	Acres of suitable habitat treated will be tracked yearly inside and outside of territories, and owl occupancy in the project area will be monitored pre- and post-implementation following the Regional California spotted owl monitoring framework.
Reference	See Region Office guidance on CSO Monitoring for more information.

VIII. APPENDIX A: REQUIRED AMENDMENTS FOR PROJECTS SEEKING A FONSI

Table A1. List of all Required Amendments for Projects seeking a FONSI. These align closely with the Programmatic Biological Assessment's Class 1 Conservation Measures.

Group	ID
PACs	DES-PAC-01
PACs	MGT-PAC-01
PACs	GDL-PAC-01
PACs	STD-PAC-01
PACs	GDL-PAC-PB
PACs	STD-PAC-02
Territories	DES-TERR-01
Territories	DES-TERR-02
Territories	DC-TERR-1A
Territories	STD-TERR-1A
Territories	STD-TERR-02
Territories	GDL-TERR-01
Territories	GDL-TERR-02
Project-Wide	STD-PROJ-1A
Project-Wide	STD-PROJ-02
Project-Wide	GDL-PROJ-01
Project-Wide	GDL-PROJ-02
Project-Wide	GDL-PROJ-03
Post-Fire Disturbance	STD-DNA-01

Table A2. Amendment components required for projects seeking a FONSI. This table can be copied into the project documentation.

ID	Action	Existing Direction from 2004 Framework	Project-Specific Plan Amendment	Applies
DES-PAC-01	Modify component language - CSO PAC Designation	California Spotted Owl Protected Activity Center (PACs) Designation. California spotted owl protected activity centers (PACs) are delineated surrounding each territorial owl activity center detected on National Forest System lands since 1986. Owl activity centers are designated for all territorial owls based on: (1) the most recent documented nest site, (2) the most recent known roost site when a nest location remains unknown, and (3) a central point based on repeated daytime detections when neither nest or roost locations are known. PACs are delineated to: (1) include known and suspected nest stands and (2) encompass the best available 300 acres of habitat in as compact a unit as possible. The best available habitat is selected for California spotted owl PACs to include: (1) two or more tree canopy layers; (2) trees in the dominant and co-dominant crown classes averaging 24 inches dbh or greater; (3) at least 70 percent tree canopy cover (including hardwoods); and (4) in descending order of priority, CWHR classes 6, 5D, 5M, 4D, and 4M and other stands with at least 50 percent canopy cover (including hardwoods). Aerial photography interpretation and field verification are used as needed to delineate PACs. p. 37	California Spotted Owl Protected Activity Center (PACs) Designation. California spotted owl protected activity centers (PACs) are defined by the following characteristics: - National Forest System lands surrounding territorial owls based on a documented nest site; recent roost site if nest location is unknown; or central point of repeated daytime detections when neither nest nor roost locations are known. 300 acres of nesting and roosting habitat in as compact a unit as possible, including all the elements (a through f) defined under HQNR habitat or, if HQNR is scarce, areas including at least the elements a through c listed under BANRF habitat. - Includes sites that provide the most sustainable nesting and roosting habitat that currently meets near-term habitat needs to support reproductive success and can be resilient to natural disturbances and climate change. PACs may be delineated using a variety of tools including field verification, aerial photography interpretation or other remotely sensed data as needed.	PACs
MGT-PAC-01	Modify component language - Fires and Fuel Management Strategy	Direction for locating area treatments is included in the standards and guidelines in Part D of this appendix. Treatment patterns are to be developed using a collaborative, multi-stakeholder approach. Resource considerations factored into the strategic placement of fuels treatments include objectives for locating treatments to overlap areas of condition class 2 and 3, high density stands, and pockets of insect and disease. Treatment areas are located to avoid PACs to the greatest extent possible. p. 35	Direction for locating area treatments is included in the standards and guidelines in Part D of this appendix. Treatment patterns are to be developed using a collaborative, multi-stakeholder approach. Resource considerations factored into the strategic placement of fuels treatments include objectives for locating treatments to overlap areas of condition class 2 and 3, high density stands, and pockets of insect and disease. Treatment areas should only overlap PACs to the extent necessary to reduce the threat of habitat loss due to wildfire. Treatments shall avoid reducing habitat quality in the HQNR habitat within PACs.	PACs
GDL-PAC-01	Modify component language – S&G 1.	S&G 1. Strategic placement of fuels treatments should also consider objectives for locating treatment areas to overlap with areas of condition class 2 and 3, high density stands, and pockets of insect and disease. Avoid PACs to the greatest extent possible when locating area treatments. Incorporate areas that already contribute to wildfire behavior modification, including timber sales, burned areas, bodies of water, and barren ground, into the landscape treatment area pattern. Identify gaps in the landscape pattern where fire could spread at some undesired rate or direction and use treatments (including maintenance treatments and new fuels treatments) to fill identified gaps.	S&G 1. Strategic placement of fuels treatments should also consider objectives for locating treatment areas to overlap with areas of condition class 2 and 3, high density stands, and pockets of insect and disease. Treatment areas should only overlap PACs to the extent necessary to reduce the threat of habitat loss due to wildfire. Treatments shall avoid reducing habitat quality in the HQNR habitat within PACs. Incorporate areas that already contribute to wildfire behavior modification, including timber sales, burned areas, bodies of water, and barren ground, into the landscape treatment area pattern. Identify gaps in the landscape pattern where fire could spread at some undesired rate or direction and use treatments (including maintenance treatments and new fuels treatments) to fill identified gaps.	PACs
STD-PAC-01	Remove components and add new	S&G 7. For mechanical thinning treatments in mature forest habitat (CWHR types 4M, 4D, 5M, 5D, and 6) outside WUI defense zones:	In California spotted owl PACs, all management activities must <u>maintain</u> or <u>improve</u> habitat quality in HQNR habitat by:	PACs

	language – S&G 7 (within PACs), 72, 73, and 74.	• Within California spotted owl PACs: Where treatment is necessary, remove only material needed to meet project fuels objectives. Focus on removal of surface and ladder fuels. S&G 72. Mechanical treatments may be conducted to meet fuels objectives in protected activity centers (PACs) located in WUI defense zones. In PACs located in WUI threat zones, mechanical treatments are allowed where prescribed fire is not feasible and where avoiding PACs would significantly compromise the overall effectiveness of the landscape fire and fuels strategy. Mechanical treatments should be designed to maintain habitat structure and function of the PAC. S&G 73. While mechanical treatments may be conducted in protected activity centers (PACs) located in WUI defense zones and, in some cases, threat zones, they are prohibited within a 500-foot radius buffer around a spotted owl activity center within the designated PAC. Prescribed burning is allowed within the 500-foot radius buffer. Hand treatments, including handline construction, tree pruning, and cutting of small trees (less than 6 inches DBH), may be conducted prior to burning as needed to protect important elements of owl habitat. Treatments in the remainder of the PAC use the forest wide standards and guidelines for mechanical thinning. S&G 74. In PACs located outside the WUI, limit stand altering activities to reducing surface and ladder fuels through prescribed fire treatments. In forested stands with overstory trees 11 inches dbh and greater, design prescribed fire treatments to have an average flame length of 4 feet or less. Hand treatments, including handline construction, tree pruning, and cutting of small trees (less than 6 inches dbh), may be conducted prior to burning as needed to protect important elements of owl habitat.	1. Maintaining or improving existing CWHR class (do not reduce 5D to 5M); 2. Retaining clumps of the largest available trees greater than 24 inches DBH; and 3. Retaining at least two canopy layers at the stand/patch scale in areas where large trees occur. Where necessary to increase long-term resilience, vegetation treatments that may reduce near-term habitat quality may be authorized in up to 100 acres of a PAC outside of HQNR habitat. Throughout PACs all vegetation treatments must: • Retain the largest/oldest trees, known nest trees, and other large trees and snags with cavities, deformities, broken tops, or other habitat features of value to old forest species; • Retain connected areas of moderate (at least 40 percent) and high (at least 60 percent) canopy cover between the known nest site (if nest site is not known, use the most recent known roost site) and areas in the rest of the PAC; • Avoid mechanical treatments within a 10-acre area surrounding the most recent known nest; • Avoid creating new landings, new temporary roads, or canopy gaps larger than 0.25 acres comprising no more than 5 acres in total; • Increase the QMD of trees at the PAC scale; and • Maintain the average canopy cover of the PAC above 50 percent. Prescribed burning is allowed within the 10 acres surrounding a nest tree or structure. Pre-treatment in preparation of prescribed burning may be conducted prior to burning, as needed, including handline construction, tree pruning, and cutting of small trees (less than 8 inches DBH). Exceptions: This standard may be modified as specified in WUI defense zones or when constructing a fuelbreak where avoiding overlap with a PAC is not feasible. To limit fragmentation and maintain connectivity of HQNR and BANRF habitat, construction of fuelbreaks should avoid intersecting with California spotted owl PACs. Treatments in WUI defense zones and creation of a fuelbreaks must: • Avoid the 10 acres surrounding the most recent known nest site; • Avoid existing HQNR habitat; and • Maintain at least 40 percent overstory canopy cover and 10 percent understory cover in shaded fuelbreaks, whenever fuels and fire behavior objectives can be met with this level of vegetation retention.
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GDL-PAC-PB (contextual addendum)	Modify guideline for prescribed burning – S&G 74	S&G 74. In PACs located outside the WUI, limit stand-altering activities to reducing surface and ladder fuels through prescribed fire treatments. In forested stands with overstory trees 11 inches dbh and greater, design prescribed fire treatments to have an average flame length of 4 feet or less. Hand treatments, including handline construction, tree pruning, and cutting of small trees (less than 6 inches dbh), may be conducted prior to burning as needed to protect important elements of owl habitat.	To restore forest vegetation within California spotted owl PAC, when practical based on existing conditions, use prescribed fire, alone or in combination with mechanical thinning. To minimize loss or damage to known nest and roost trees, include mitigation measures when conducting prescribed fire in PACs. To minimize impacts to overstory canopy and provide conditions for continued use for nesting and roosting within PACs, reduce fuel loads with thinning and/or prescribed burning to minimize the risk of high-severity fire and promote conditions that lead to lower intensity predicted fire effects (generally flame lengths averaging 4 to 6 feet).	PACs
STD-PAC-02	Modify component language – S&G 33.	S&G 33: Conduct surveys in compliance with the Pacific Southwest Region's survey protocols during the planning process when proposed vegetation treatments are likely to reduce habitat quality in suitable California spotted owl habitat with unknown occupancy. Designate California spotted owl protected activity centers (PACs) where appropriate based on survey results.	S&G 33: Before authorizing and before implementing mechanical vegetation treatments within existing PACs or vegetation treatments in CSO nesting and roosting habitat of unknown occupancy, forests must follow current guidance for the Pacific Southwest region to: • Determine occupancy status; • Identify owl nest sites (where nest location is not known, the most recent daytime roost); and • Delineate new or modify existing PACs and territories, as necessary, within the project area.	PACs
DES-TERR-01	Modify component language – Old Forest Ecosystem and Associated Species Strategy	A network of land allocations, including California spotted owl and northern goshawk protected activity centers (PACs), California spotted owl home range core areas , forest carnivore den sites, and the southern Sierra fisher conservation area, with management direction [...] p. 31	A network of land allocations, including California spotted owl and northern goshawk protected activity centers (PACs), California spotted owl territories , forest carnivore den sites, and the southern Sierra fisher conservation area, with management direction [...]	Territories
DES-TERR-02		California Spotted Owl Home Range Core Areas (HRCAs) Designation. A home range core area is established surrounding each territorial spotted owl activity center detected after 1986. The core area amounts to 20 percent of the area described by the sum of the average breeding pair home range plus one standard error. Home range core area sizes are as follows: 2,400 acres on the Hat Creek and Eagle Lake Ranger Districts of the Lassen National Forest, 1,000 acres on the Modoc, Inyo, Humboldt-Toiyabe, Plumas, Tahoe, Eldorado, Lake Tahoe Basin Management Unit and Stanislaus National Forests and on the Almanor Ranger District of Lassen National Forest, and 600 acres of the Sequoia and Sierra National Forests. Aerial photography is used to delineate the core area. Acreage for the entire core area is identified on national forest lands. Core areas encompass the best available California spotted owl habitat in the closest	California Spotted Owl Territories Designation Territories are defined by the following characteristics: A 1,000-acre circle, which includes the 300-acre PAC, surrounding territorial owls, centered on a documented nest site or roost site if nest location is unknown or central point of repeated daytime detections when neither nest nor roost locations are known. • Territory boundaries should include the entire PAC and be adjusted to include suitable habitat in the most sustainable areas (moist vegetation types and site conditions, often in drainages or on north-facing slopes) and to exclude unsuitable habitat. • Contains diverse structural and seral conditions to facilitate nesting, roosting, and foraging. • May overlap adjacent territories. • Territories are established and retired together with PACs.	Territories

		proximity to the owl activity center. The best available contiguous habitat is selected to incorporate, in descending order of priority, CWHR classes 6, 5D, 5M, 4D and 4M and other stands with at least 50 percent tree canopy cover (including hardwoods). The acreage in the 300-acre PAC counts toward the total home range core area. Core areas are delineated within 1.5 miles of the activity center. When activities are planned adjacent to non-national forest lands, circular core areas are delineated around California spotted owl activity centers on non-national forest lands. Using the best available habitat as described above, any part of the circular core area that lies on national forest lands is designated and managed as a California spotted owl home range core area.	<i>Contextually required for all projects that are adjacent to non-national forest lands that have known CSO nest sites:</i> When activities are planned adjacent to non-national forest lands containing known CSO nest stands, a 1,000-acre circle territory should be delineated around known CSO activity centers on non-national forest lands. Any part of the circular core area that lies on national forest lands is designated and managed as a CSO territory.	
DC-TERR-1A	Replace HRCAs desired condition with Territory desired condition	California Spotted Owl Home Range Core Areas (HRCAs) Desired Conditions HRCAs consist of large habitat blocks that have: (1) at least two tree canopy layers; (2) at least 24 inches DBH in dominant and co-dominant trees; (3) a number of very large (greater than 45 inches DBH) old trees; (4) at least 50 to 70 percent canopy cover; and (5) higher than average levels of snags and down woody material. California Spotted Owl Home Range Core Areas (HRCAs) Management Objectives: Establish and maintain a pattern of fuels treatments that is effective in modifying wildfire behavior. Design treatments in HRCAs to be economically efficient and to promote forest health where consistent with habitat objectives. California Spotted Owl Home Range Core Areas (HRCAs) Management Intent: Treat fuels using a landscape approach for strategically placing area treatments to modify fire behavior. Retain existing suitable habitat, recognizing that habitat within treated areas may be modified to meet fuels objectives. Accelerate development of currently unsuitable habitat (in non-habitat inclusions, such as plantations) into suitable condition. Arrange treatment patterns and design treatment prescriptions to avoid the highest quality habitat (CWHR types 5M, 5D, and 6) wherever possible.	California Spotted Owl Territories Desired Conditions At least 60 percent of each California spotted owl territory, including the PAC, consists of HQNR habitat in large enough patches to provide interior stand conditions (generally 1 to 2 tree heights from an edge) surrounded by BANRF, preferably with a greater proportion of HQNR to BANRF, particularly closer to the nest. The remainder of the territory consists of a diversity of many different structure and canopy classes. For areas where multiple territories comprise over 75 percent of a watershed (typically a HUC 12 unit and greater than 10,000 acres in size) at least 30-50 percent of the watershed consists of the HQNR and BANRF habitat and the remainder of the territory consists of a diversity of many different structure and canopy classes.	Territories
STD-TERR-1A	Modify component language – S&G 7.	S&G 7. For mechanical thinning treatments in mature forest habitat (CWHR types 4M, 4D, 5M, 5D, and 6) outside WUI defense zones: - Design projects to retain at least 40 percent of the existing basal area. The retained basal area should generally be comprised of the largest trees. - Where available, design projects to retain 5 percent or more of the total treatment area in lower layers composed of trees 6 to 24 inches dbh within the treatment unit.	- When a territory contains less than 60 percent HQNR and BANRF habitat, <u>maintain or improve</u> all HQNR and BANRF habitat wherever it exists throughout the territory. - When a territory contains 60 percent or more HQNR and BANRF habitat, retain¹ at least 60% suitable habitat. Treatments will promote heterogenous structure across the territory and prioritize <u>maintaining or improving</u> HQNR habitat in drainages and north- or east-facing slopes.	Territories

		- Design projects to avoid reducing pre-existing canopy cover by more than 30 percent within the treatment unit. Percent is measured in absolute terms (for example, canopy cover at 80 percent should not be reduced below 50 percent.) - Within treatment units, at a minimum, the intent is to provide for an effective fuels treatment. Where existing vegetative conditions are at or near 40 percent canopy cover, projects are to be designed remove the material necessary to meet fire and fuels objectives. Within California spotted owl Home Range Core Areas: Where existing vegetative conditions permit, design projects to retain at least 50 percent canopy cover averaged within the treatment unit. Exceptions are allowed in limited situations where additional trees must be removed to adequately reduce ladder fuels, provide sufficient spacing for equipment operations, or minimize re-entry. Where 50 percent canopy cover retention cannot be met for reasons described above, retain at least 40 percent canopy cover averaged within the treatment unit. Outside of California spotted owl Home Range Core Areas: Where existing vegetative conditions permit, design projects to retain at least 50 percent canopy cover within the treatment unit. Exceptions are allowed where project objectives require additional canopy modification (such as the need to adequately reduce ladder fuels, provide for safe and efficient equipment operations, minimize re-entry, design cost efficient treatments, and/or significantly reduce stand density.) Where canopy cover must be reduced below 50 percent, retain at least 40 percent canopy cover averaged within the treatment unit.		
STD-TERR-02	Add new standard	[None]	When mechanical treatments create canopy gaps within California spotted owl territories, but outside of PACs, individual openings shall not exceed 1.25 acres (and should generally not exceed 0.5 acre) and shall not comprise more than 30 percent of the total area in the territory. This includes openings created for the construction of landings or temporary roads (restricted to 1.0 mile or less).	Territories
GDL-TERR-01	Add new guideline	[None]	To promote high-quality nesting and denning habitat for old-forest-associated species, thinning in CSO territories to increase heterogeneity and resilience should retain the oldest and largest trees and large trees with habitat features (such as deformities, broken tops, large branches, and cavities) that benefit these wildlife species. Desired conditions for large tree density vary by vegetation type and site conditions.	Territories
GDL-TERR-02	Add new guideline	[None]	To facilitate development of future nest sites, vegetation treatments in California spotted owl territories should:	Territories

			- Promote growth of trees greater than 24 inches DBH and especially large trees, and - Retain clumps or groups of trees greater than 24 inches DBH and/or 100 feet tall, and especially trees greater than 30 inches DBH and/or 150 feet tall, with canopy cover greater than 60 to 70 percent.	
STD-PROJ-1A	Modify component language – S&G 6.	S&G 6. For all mechanical thinning treatments, design projects to retain all live conifers 30 inches DBH or larger. Exceptions are allowed to meet needs for equipment operability.	S&G 6. For all thinning treatments, retain live conifer trees greater than 30 inches DBH except in the case of imminent threat to life and property. When required and on an incidental basis, individual trees less than 35 inches DBH may be removed for equipment operability.	Project-wide
STD-PROJ-02	Add new standard	[None]	Known nest, roost, rest, or den trees used by at-risk species, including surrounding trees that provide beneficial thermal or predatory protection, must not be purposefully removed, except for the reasonably unavoidable removal of hazard trees and as required to meet other State or Federal regulatory requirements.	Project-wide
GDL-PROJ-01	Add new guideline	[None]	To promote habitat connectivity at the watershed scale, when conducting vegetation treatments in California spotted owl territories, retain connected areas of moderate and high canopy cover in large /tall trees.	Project-wide
GDL-PROJ-02	Add new guideline	[None]	To provide for continued availability of patches of nesting, roosting, and foraging habitat (6, 5D, 5M, and 4D in descending order of priority), in ecologically sustainable areas, consider aspect and position on slope as follows: - On north and east facing slopes, drainages, swales and canyon bottoms – when conducting treatments to improve resilience – maintain patches of large/tall trees with moderate and high canopy cover large enough to provide beneficial thermal or predatory protection, amongst more heterogenous conditions. To facilitate movement, retain connectivity between patches when possible. - On south- and west-facing slopes and on ridges, prioritize restoration toward forest conditions resistant to stressors.	Project-wide
GDL-PROJ-03	Add/modify guideline for old forest connectivity	<i>[S&G 27-31 pertain to old growth forest and are similar in intent – consider whether to add or replace them with amendment.]</i> S&G 27. Minimize old forest habitat fragmentation. Assess potential impacts of fragmentation on old forest associated species (particularly fisher and marten) in biological evaluations. S&G 28. Assess the potential impact of projects on the connectivity of habitat for old forest associated species. S&G 29. Consider retaining forested linkages (with canopy cover greater than 40 percent) that are interconnected via riparian areas and ridgetop saddles during project-level analysis. S&G 30. If fishers are detected outside the southern Sierra fisher conservation area, evaluate habitat conditions and implement appropriate mitigation measures to retain suitable habitat within the estimated home range. Institute project-level surveys over the appropriate area, as determined by an interdisciplinary team.	To promote connectivity of old-forest habitat by prioritizing restoration-focused treatments in areas between isolated old-forest patches, avoid creating large areas of open canopy habitat (vegetation cover less than 30 percent) that would isolate patches of old, dense forest and limit wildlife movement.	Project-wide

		S&G 31. Identify areas for acquisition, exchange, or conservation easements to enhance connectivity of habitat for old forest associated species.		
STD-DNA-01	Do Not Amend	S&G 16. Outside of WUI defense zones, salvage harvests are prohibited in PACs and known den sites unless a biological evaluation determines that the areas proposed for harvest are rendered unsuitable for the purpose they were intended by a catastrophic stand-replacing event.	<i>[Do not remove]</i>	Project-wide

IX. APPENDIX B: REQUIRED AMENDMENTS FOR PROJECTS EVALUATING SIGNIFICANT EFFECTS

Table B1. List of all Required Amendments for Projects that are evaluating potential significant effects. These align closely with the Programmatic Biological Assessment's Class 2 and Class 3 Conservation Measures.

Group	ID
PACs	DES-PAC-01
PACs	MGT-PAC-01
PACs	GDL-PAC-01
PACs	STD-PAC-01
PACs	GDL-PAC-PB
PACs	STD-PAC-02
Territories	DES-TERR-01
Territories	DES-TERR-02
Territories	DC-TERR-1B
Territories	STD-TERR-1B
Territories	STD-TERR-02
Territories	GDL-TERR-01
Territories	GDL-TERR-02
Project-Wide	STD-PROJ-1B
Project-Wide	STD-PROJ-02
Project-Wide	GDL-PROJ-01
Project-Wide	GDL-PROJ-02
Project-Wide	GDL-PROJ-03
Post-Fire Disturbance	STD-DNA-01

Table B2. Amendment components required for projects that are examining significant effects. This table can be copied into the project documentation.

ID	Action	Existing Direction from 2004 Framework	Project-Specific Plan Amendment	Applies
DES-PAC-01	Modify component language - CSO PAC Designation	California Spotted Owl Protected Activity Center (PACs) Designation. California spotted owl protected activity centers (PACs) are delineated surrounding each territorial owl activity center detected on National Forest System lands since 1986. Owl activity centers are designated for all territorial owls based on: (1) the most recent documented nest site, (2) the most recent known roost site when a nest location remains unknown, and (3) a central point based on repeated daytime detections when neither nest or roost locations are known. PACs are delineated to: (1) include known and suspected nest stands and (2) encompass the best available 300 acres of habitat in as compact a unit as possible. The best available habitat is selected for California spotted owl PACs to include: (1) two or more tree canopy layers; (2) trees in the dominant and co-dominant crown classes averaging 24 inches dbh or greater; (3) at least 70 percent tree canopy cover (including hardwoods); and (4) in descending order of priority, CWHR classes 6, 5D, 5M, 4D, and 4M and other stands with at least 50 percent canopy cover (including hardwoods). Aerial photography interpretation and field verification are used as needed to delineate PACs. p. 37	California Spotted Owl Protected Activity Center (PACs) Designation. California spotted owl protected activity centers (PACs) are defined by the following characteristics: - National Forest System lands surrounding territorial owls based on a documented nest site; recent roost site if nest location is unknown; or central point of repeated daytime detections when neither nest nor roost locations are known. 300 acres of nesting and roosting habitat in as compact a unit as possible, including all the elements (a through f) defined under HQNR habitat or, if HQNR is scarce, areas including at least the elements a through c listed under BANRF habitat. - Includes sites that provide the most sustainable nesting and roosting habitat that currently meets near-term habitat needs to support reproductive success and can be resilient to natural disturbances and climate change. PACs may be delineated using a variety of tools including field verification, aerial photography interpretation or other remotely sensed data as needed.	PACs
MGT-PAC-01	Modify component language - Fires and Fuel Management Strategy	Direction for locating area treatments is included in the standards and guidelines in Part D of this appendix. Treatment patterns are to be developed using a collaborative, multi-stakeholder approach. Resource considerations factored into the strategic placement of fuels treatments include objectives for locating treatments to overlap areas of condition class 2 and 3, high density stands, and pockets of insect and disease. Treatment areas are located to avoid PACs to the greatest extent possible. p. 35	Direction for locating area treatments is included in the standards and guidelines in Part D of this appendix. Treatment patterns are to be developed using a collaborative, multi-stakeholder approach. Resource considerations factored into the strategic placement of fuels treatments include objectives for locating treatments to overlap areas of condition class 2 and 3, high density stands, and pockets of insect and disease. Treatment areas should only overlap PACs to the extent necessary to reduce the threat of habitat loss due to wildfire. Treatments shall avoid reducing habitat quality in the HQNR habitat within PACs.	PACs
GDL-PAC-01	Modify component language – S&G 1.	S&G 1. Strategic placement of fuels treatments should also consider objectives for locating treatment areas to overlap with areas of condition class 2 and 3, high density stands, and pockets of insect and disease. Avoid PACs to the greatest extent possible when locating area treatments. Incorporate areas that already contribute to wildfire behavior modification, including timber sales, burned areas, bodies of water, and barren ground, into the landscape treatment area pattern. Identify gaps in the landscape pattern where fire could spread at some undesired rate or direction and use treatments (including maintenance treatments and new fuels treatments) to fill identified gaps.	S&G 1. Strategic placement of fuels treatments should also consider objectives for locating treatment areas to overlap with areas of condition class 2 and 3, high density stands, and pockets of insect and disease. Treatment areas should only overlap PACs to the extent necessary to reduce the threat of habitat loss due to wildfire. Treatments shall avoid reducing habitat quality in the HQNR habitat within PACs. Incorporate areas that already contribute to wildfire behavior modification, including timber sales, burned areas, bodies of water, and barren ground, into the landscape treatment area pattern. Identify gaps in the landscape pattern where fire could spread at some undesired rate or direction and use treatments (including maintenance treatments and new fuels treatments) to fill identified gaps.	PACs

STD-PAC-01	Remove components and add new language – S&G 7 (within PACs), 72, 73, and 74.	S&G 7. For mechanical thinning treatments in mature forest habitat (CWHR types 4M, 4D, 5M, 5D, and 6) outside WUI defense zones: Within California spotted owl PACs: Where treatment is necessary, remove only material needed to meet project fuels objectives. Focus on removal of surface and ladder fuels. S&G 72. Mechanical treatments may be conducted to meet fuels objectives in protected activity centers (PACs) located in WUI defense zones. In PACs located in WUI threat zones, mechanical treatments are allowed where prescribed fire is not feasible and where avoiding PACs would significantly compromise the overall effectiveness of the landscape fire and fuels strategy. Mechanical treatments should be designed to maintain habitat structure and function of the PAC. S&G 73. While mechanical treatments may be conducted in protected activity centers (PACs) located in WUI defense zones and, in some cases, threat zones, they are prohibited within a 500-foot radius buffer around a spotted owl activity center within the designated PAC. Prescribed burning is allowed within the 500-foot radius buffer. Hand treatments, including handline construction, tree pruning, and cutting of small trees (less than 6 inches DBH), may be conducted prior to burning as needed to protect important elements of owl habitat. Treatments in the remainder of the PAC use the forest wide standards and guidelines for mechanical thinning. S&G 74. In PACs located outside the WUI, limit stand altering activities to reducing surface and ladder fuels through prescribed fire treatments. In forested stands with overstory trees 11 inches dbh and greater, design prescribed fire treatments to have an average flame length of 4 feet or less. Hand treatments, including handline construction, tree pruning, and cutting of small trees (less than 6 inches dbh), may be conducted prior to burning as needed to protect important elements of owl habitat.	In California spotted owl PACs, all management activities must <u>maintain</u> or <u>improve</u> habitat quality in HQNR habitat by: - Maintaining or improving existing CWHR class (do not reduce 5D to 5M); - Retaining clumps of the largest available trees greater than 24 inches DBH; and - Retaining at least two canopy layers at the stand/patch scale in areas where large trees occur. Where necessary to increase long-term resilience, vegetation treatments that may reduce near-term habitat quality may be authorized in up to 100 acres of a PAC outside of HQNR habitat. Throughout PACs all vegetation treatments must: - Retain the largest/oldest trees, known nest trees, and other large trees and snags with cavities, deformities, broken tops, or other habitat features of value to old forest species; - Retain connected areas of moderate (at least 40 percent) and high (at least 60 percent) canopy cover between the known nest site (if nest site is not known, use the most recent known roost site) and areas in the rest of the PAC; - Avoid mechanical treatments within a 10-acre area surrounding the most recent known nest; - Avoid creating new landings, new temporary roads, or canopy gaps larger than 0.25 acres comprising no more than 5 acres in total; - Increase the QMD of trees at the PAC scale; and - Maintain the average canopy cover of the PAC above 50 percent. Prescribed burning is allowed within the 10 acres surrounding a nest tree or structure. Pre-treatment in preparation of prescribed burning may be conducted prior to burning, as needed, including handline construction, tree pruning, and cutting of small trees (less than 8 inches DBH). Exceptions: This standard may be modified as specified in WUI defense zones or when constructing a fuelbreak where avoiding overlap with a PAC is not feasible. To limit fragmentation and maintain connectivity of HQNR and BANRF habitat, construction of fuelbreaks should avoid intersecting with California spotted owl PACs. Treatments in WUI defense zones and creation of a fuelbreaks must: - Avoid the 10 acres surrounding the most recent known nest site; - Avoid existing HQNR habitat; and - Maintain at least 40 percent overstory canopy cover and 10 percent understory cover in shaded fuelbreaks, whenever fuels and fire behavior objectives can be met with this level of vegetation retention.	PACs
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GDL-PAC-PB (contextual addendum)	Modify guideline for prescribed burning – S&G 74	S&G 74. In PACs located outside the WUI, limit stand altering activities to reducing surface and ladder fuels through prescribed fire treatments. In forested stands with overstory trees 11 inches dbh and greater, design prescribed fire treatments to have an average flame length of 4 feet or less. Hand treatments, including handline construction, tree pruning, and cutting of small trees (less than 6 inches dbh), may be conducted prior to burning as needed to protect important elements of owl habitat.	To restore forest vegetation within California spotted owl PAC, when practical based on existing conditions, use prescribed fire, alone or in combination with mechanical thinning. To minimize loss or damage to known nest and roost trees, include mitigation measures when conducting prescribed fire in PACs. To minimize impacts to overstory canopy and provide conditions for continued use for nesting and roosting within PACs, reduce fuel loads with thinning and/or prescribed burning to minimize the risk of high-severity fire and promote conditions that lead to lower intensity predicted fire effects (generally flame lengths averaging 4 to 6 feet).	PACs
STD-PAC-02	Modify component language – S&G 33.	S&G 33: Conduct surveys in compliance with the Pacific Southwest Region's survey protocols during the planning process when proposed vegetation treatments are likely to reduce habitat quality in suitable California spotted owl habitat with unknown occupancy. Designate California spotted owl protected activity centers (PACs) where appropriate based on survey results.	S&G 33: Before authorizing and before implementing mechanical vegetation treatments within existing PACs or vegetation treatments in CSO nesting and roosting habitat of unknown occupancy, forests must follow current guidance for the Pacific Southwest region to: • Determine occupancy status; • Identify owl nest sites (where nest location is not known, the most recent daytime roost); and • Delineate new or modify existing PACs and territories, as necessary, within the project area.	PACs
DES-TERR-01	Modify component language – Old Forest Ecosystem and Associated Species Strategy	A network of land allocations, including California spotted owl and northern goshawk protected activity centers (PACs), California spotted owl home range core areas , forest carnivore den sites, and the southern Sierra fisher conservation area, with management direction [...] p. 31	A network of land allocations, including California spotted owl and northern goshawk protected activity centers (PACs), California spotted owl territories , forest carnivore den sites, and the southern Sierra fisher conservation area, with management direction [...]	Territories
DES-TERR-02		California Spotted Owl Home Range Core Areas (HRCAs) Designation. A home range core area is established surrounding each territorial spotted owl activity center detected after 1986. The core area amounts to 20 percent of the area described by the sum of the average breeding pair home range plus one standard error. Home range core area sizes are as follows: 2,400 acres on the Hat Creek and Eagle Lake Ranger Districts of the Lassen National Forest, 1,000 acres on the Modoc, Inyo, Humboldt Toiyabe, Plumas, Tahoe, Eldorado, Lake Tahoe Basin Management Unit and Stanislaus National Forests and on the Almanor Ranger District of Lassen National Forest, and 600 acres of the Sequoia and Sierra National Forests. Aerial photography is used to delineate the core area. Acreage for the entire core area is identified on national forest lands. Core areas encompass the best available California spotted owl habitat in the closest	California Spotted Owl Territories Designation Territories are defined by the following characteristics: A 1,000-acre circle, which includes the 300-acre PAC, surrounding territorial owls, centered on a documented nest site or roost site if nest location is unknown or central point of repeated daytime detections when neither nest nor roost locations are known. • Territory boundaries should include the entire PAC and be adjusted to include suitable habitat in the most sustainable areas (moist vegetation types and site conditions, often in drainages or on north-facing slopes) and to exclude unsuitable habitat. • Contains diverse structural and seral conditions to facilitate nesting, roosting, and foraging. • May overlap adjacent territories. • Territories are established and retired together with PACs.	Territories

		proximity to the owl activity center. The best available contiguous habitat is selected to incorporate, in descending order of priority, CWHR classes 6, 5D, 5M, 4D and 4M and other stands with at least 50 percent tree canopy cover (including hardwoods). The acreage in the 300-acre PAC counts toward the total home range core area. Core areas are delineated within 1.5 miles of the activity center. When activities are planned adjacent to non-national forest lands, circular core areas are delineated around California spotted owl activity centers on non-national forest lands. Using the best available habitat as described above, any part of the circular core area that lies on national forest lands is designated and managed as a California spotted owl home range core area.	<i>Contextually required for all projects that are adjacent to non-national forest lands that have known CSO nest sites:</i> When activities are planned adjacent to non-national forest lands containing known CSO nest stands, a 1,000-acre circle territory should be delineated around known CSO activity centers on non-national forest lands. Any part of the circular core area that lies on national forest lands is designated and managed as a CSO territory.	
DC-TERR-1B	Replace HRCAs desired Condition with Territory Desired Condition	California Spotted Owl Home Range Core Areas (HRCAs) Desired Conditions HRCAs consist of large habitat blocks that have: (1) at least two tree canopy layers; (2) at least 24 inches DBH in dominant and co-dominant trees; (3) a number of very large (greater than 45 inches DBH) old trees; (4) at least 50 to 70 percent canopy cover; and (5) higher than average levels of snags and down woody material. California Spotted Owl Home Range Core Areas (HRCAs) Management Objectives: Establish and maintain a pattern of fuels treatments that is effective in modifying wildfire behavior. Design treatments in HRCAs to be economically efficient and to promote forest health where consistent with habitat objectives. California Spotted Owl Home Range Core Areas (HRCAs) Management Intent: Treat fuels using a landscape approach for strategically placing area treatments to modify fire behavior. Retain existing suitable habitat, recognizing that habitat within treated areas may be modified to meet fuels objectives. Accelerate development of currently unsuitable habitat (in non-habitat inclusions, such as plantations) into suitable condition. Arrange treatment patterns and design treatment prescriptions to avoid the highest quality habitat (CWHR types 5M, 5D, and 6) wherever possible.	California Spotted Owl Territories Desired Conditions At least 50 to 60 percent (depending on the terrestrial vegetation type and site conditions) of each California spotted owl territory, including the PAC, consists of HQNR habitat in large enough patches to provide interior stand conditions (generally 1 to 2 tree heights from an edge) surrounded by BANRF, preferably with a greater proportion of HQNR to BANRF, particularly closer to the nest. The remainder of the territory consists of a diversity of many different structure and canopy classes. For areas where multiple territories comprise over 75 percent of a watershed (typically a HUC 12 unit and greater than 10,000 acres in size) at least 30-50 percent of the watershed consists of the HQNR and BANRF habitat and the remainder of the territory consists of a diversity of many different structure and canopy classes.	Territories
STD-TERR-1B	Modify component language – S&G 7.	S&G 7. For mechanical thinning treatments in mature forest habitat (CWHR types 4M, 4D, 5M, 5D, and 6) outside WUI defense zones: Design projects to retain at least 40 percent of the existing basal area. The retained basal area should generally be comprised of the largest trees.	- In California spotted owl territories that do not currently meet the territory desired condition (DC-TERR-01B), maintain or improve all HQNR and BANRF habitat wherever it exists throughout the territory. - If DC-TERR-01 has been met, - When a territory consists of a majority of moist habitat types¹ and contains 60 percent or more HQNR and BANRF habitat, retain² at least 60% suitable habitat. Treatments will promote heterogenous	Territories

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| | | <ul style="list-style-type: none"> Where available, design projects to retain 5 percent or more of the total treatment area in lower layers composed of trees 6 to 24 inches dbh within the treatment unit. Design projects to avoid reducing pre-existing canopy cover by more than 30 percent within the treatment unit. Percent is measured in absolute terms (for example, canopy cover at 80 percent should not be reduced below 50 percent.) Within treatment units, at a minimum, the intent is to provide for an effective fuels treatment. Where existing vegetative conditions are at or near 40 percent canopy cover, projects are to be designed remove the material necessary to meet fire and fuels objectives. Within California spotted owl Home Range Core Areas: Where existing vegetative conditions permit, design projects to retain at least 50 percent canopy cover averaged within the treatment unit. Exceptions are allowed in limited situations where additional trees must be removed to adequately reduce ladder fuels, provide sufficient spacing for equipment operations, or minimize re-entry. Where 50 percent canopy cover retention cannot be met for reasons described above, retain at least 40 percent canopy cover averaged within the treatment unit. Outside of California spotted owl Home Range Core Areas: Where existing vegetative conditions permit, design projects to retain at least 50 percent canopy cover within the treatment unit. Exceptions are allowed where project objectives require additional canopy modification (such as the need to adequately reduce ladder fuels, provide for safe and efficient equipment operations, minimize re-entry, design cost efficient treatments, and/or significantly reduce stand density.) Where canopy cover | <p>structure across the territory and prioritize <u>maintaining or improving</u> HQNR habitat in drainages and north- or east-facing slopes.</p> <ul style="list-style-type: none"> b. When a territory consists of a majority of moist habitat types¹ and contains less than 60 percent HQNR and BANRF habitat, <u>maintain or improve</u> all HQNR and BANRF habitat wherever it exists throughout the territory. Treatments will promote heterogenous structure across the territory. c. When a territory consists of a majority of dry habitat types⁴ and contains 60% or more HQNR and BANRF habitat, retain² at least 50% suitable habitat. Treatments will promote heterogenous structure across the territory and prioritize <u>maintaining or improving</u> HQNR habitat in drainages and north- or east-facing slopes. d. When a territory consists of a majority of dry habitat types¹ and contains less than 60 percent HQNR and BANRF habitat, <u>maintain or improve</u> all HQNR habitat wherever it exists throughout the territory, and retain⁵ at least 50 percent of suitable habitat. Treatments will promote heterogenous structure across the territory. <p>Exception:</p> <ul style="list-style-type: none"> For territories occurring in WUI defense zones, within high risk fireshed areas⁶, or in territories that contain unavoidable placement of fuelbreaks, retain² at least 40 percent of the territory (including the PAC) in suitable habitat. Treatments will promote heterogenous structure across the territory and prioritize <u>maintaining or improving</u> HQNR habitat in drainages and north- or east-facing slopes. | |
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⁴Moist and dry habitat types can be determined based on vegetation type or physiographical attributes such as ridge tops and south or west facing slopes for dry territories and drainages and north or west facing slopes for moist.

⁵ Retain refers to the extent of habitat. It does not prevent treatments.

⁶ High risk fireshed areas are Fireshed Registry Project Areas (areas delineated by regular-sized units as specified in [RMRS-GTR-425](#)) that have a Managed Stands Average Annual Exposure greater than or equal to 3.0. For a list of these areas, see Table 8 and Figure 1

		must be reduced below 50 percent, retain at least 40 percent canopy cover averaged within the treatment unit.		
STD-TERR-02	Add new standard	<i>[None]</i>	When mechanical treatments create canopy gaps within California spotted owl territories, but outside of PACs, individual openings shall not exceed 1.25 acres (and should generally not exceed 0.5 acre) and shall not comprise more than 30 percent of the total area in the territory. This includes openings created for the construction of landings or temporary roads (restricted to 1.0 mile or less).	Territories
GDL-TERR-01	Add new guideline	<i>[None]</i>	To promote high-quality nesting and denning habitat for old-forest-associated species, thinning in CSO territories to increase heterogeneity and resilience should retain the oldest and largest trees and large trees with habitat features (such as deformities, broken tops, large branches, and cavities) that benefit these wildlife species. Desired conditions for large tree density vary by vegetation type and site conditions.	Territories
GDL-TERR-02	Add new guideline	<i>[None]</i>	To facilitate development of future nest sites, vegetation treatments in California spotted owl territories should: - Promote growth of trees greater than 24 inches DBH and especially large trees, and - Retain clumps or groups of trees greater than 24 inches DBH and/or 100 feet tall, and especially trees greater than 30 inches DBH and/or 150 feet tall, with canopy cover greater than 60 to 70 percent.	Territories
STD-PROJ-1B	Modify component language – S&G 6.	S&G 6. For all mechanical thinning treatments, design projects to retain all live conifers 30 inches DBH or larger. Exceptions are allowed to meet needs for equipment operability.	S&G 6. For all treatments, design projects to retain live conifer trees greater than 30 inches DBH except in the case of imminent threat to life and property, or if one of the conditions below is met: - When required for equipment operability, individual trees less than 35 inches DBH may be removed on an incidental basis. - Outside of California spotted owl territories and where necessary to move towards vegetation desired conditions, live trees greater than 30 inches but less than 40 inches DBH may be felled to create coarse woody debris (where it's lacking), or removed, under the following limited circumstances: - When removing trees is needed for aspen, oak, or meadow restoration treatments or for cultural or Tribal importance. - In overly-dense stands to favor retention or promote the growth of even larger or older shade-intolerant trees. - To improve the growth and vigor of rust-resistant sugar pine trees greater than 16 inches DBH by reducing competition from surrounding trees; or - Within homogeneous plantations, to reduce loss of large trees due to competition in overly dense stands.	Project-wide
STD-PROJ-02	Add new standard	<i>[None]</i>	Known nest, roost, rest, or den trees used by at-risk species, including surrounding trees that provide beneficial thermal or predatory protection, must not be purposefully removed, except for the reasonably unavoidable removal of hazard trees and as required to meet other State or Federal regulatory requirements.	Project-wide

GDL-PROJ-01	Add new guideline	[None]	To promote habitat connectivity at the watershed scale, when conducting vegetation treatments in California spotted owl territories, retain connected areas of moderate and high canopy cover in large /tall trees.	Project-wide
GDL-PROJ-02	Add new guideline	[None]	To provide for continued availability of patches of nesting, roosting, and foraging habitat (6, 5D, 5M, and 4D in descending order of priority), in ecologically sustainable areas, consider aspect and position on slope as follows: - On north and east facing slopes, drainages, swales and canyon bottoms – when conducting treatments to improve resilience – maintain patches of large/tall trees with moderate and high canopy cover large enough to provide beneficial thermal or predatory protection, amongst more heterogenous conditions. To facilitate movement, retain connectivity between patches when possible. - On south- and west-facing slopes and on ridges, prioritize restoration toward forest conditions resistant to stressors.	Project-wide
GDL-PROJ-03	Add/modify guideline for old forest connectivity	<i>[S&G 27-31 pertain to old growth forest and are similar in intent – consider whether to add or replace them with amendment.]</i> S&G 27. Minimize old forest habitat fragmentation. Assess potential impacts of fragmentation on old forest associated species (particularly fisher and marten) in biological evaluations. S&G 28. Assess the potential impact of projects on the connectivity of habitat for old forest associated species. S&G 29. Consider retaining forested linkages (with canopy cover greater than 40 percent) that are interconnected via riparian areas and ridgetop saddles during project-level analysis. S&G 30. If fishers are detected outside the southern Sierra fisher conservation area, evaluate habitat conditions and implement appropriate mitigation measures to retain suitable habitat within the estimated home range. Institute project-level surveys over the appropriate area, as determined by an interdisciplinary team. S&G 31. Identify areas for acquisition, exchange, or conservation easements to enhance connectivity of habitat for old forest associated species.	To promote connectivity of old-forest habitat by prioritizing restoration-focused treatments in areas between isolated old-forest patches, avoid creating large areas of open canopy habitat (vegetation cover less than 30 percent) that would isolate patches of old, dense forest and limit wildlife movement.	Project-wide
STD-DNA-01	Do Not Amend	S&G 16. Outside of WUI defense zones, salvage harvests are prohibited in PACs and known den sites unless a biological evaluation determines that the areas proposed for harvest are rendered unsuitable for the purpose they were intended by a catastrophic stand-replacing event.	[Do not remove]	Project-wide

X. APPENDIX C: OPTIONAL AMENDMENTS

Table C1. Optional amendment components.

Group	ID
PACs	DES-PAC-02
PACs	DC-PAC-01
PACs	STD-PAC-03
PACs	STD-PAC-04
PACs	GDL-PAC-02
Territories	GDL-TERR-03
Project-wide	DC-SNAG-01
Project-wide	DC-ECOS-01
Project-wide	DC-ECOS-02
Project-wide	DC-OLD-01
Project-wide	DC-OLD-02
Project-wide	DC-OLD-03
Project-wide	DC-OLD-04
Project-wide	DC-OLD-05
Project-wide	DC-OLD-06
Project-wide	MAN-NEST-01
Project-wide	STD-SNAG-01
Project-wide	GDL-SNAG-01
Project-wide	SUIT-CSO-01
Prescribed Fire	GDL-RXB-01
Prescribed Fire	GDL-RXB-02
Post-Fire Disturbance	DC-FIRE-01

Table C2. Optional amendment components. You may retain the Framework language or amend it using these components.

ID	Action	Existing Direction from 2004 Framework	Project-Specific Plan Amendment	Applies
DES-PAC-02	Modify component language – CSO PAC Designation	California Spotted Owl Protected Activity Centers Designation: PACs are maintained regardless of California spotted owl occupancy status. However, after a stand-replacing event, evaluate habitat conditions within a 1.5-mile radius around the activity center to identify opportunities for re-mapping the PAC. If there is insufficient suitable habitat for designating a PAC within the 1.5-mile radius, the PAC may be removed from the network. p. 37	California Spotted Owl Protected Activity Centers Designation: PAC retirement after disturbance or long-term lack of occupancy Existing PACs and territories may not be retired unless loss of suitable habitat or long-term occupancy criteria are met as defined in the 2019 Conservation Strategy for the California Spotted Owl in the Sierra Nevada, or more current guidance for the Pacific Southwest Region. Before authorizing vegetation treatments in California spotted owl territories affected by a large-scale, high-severity disturbance event, assess habitat conditions within a 1.5-mile radius of the most recent nest (where the nest is not known, the most recent daytime roost) to determine whether to modify or retire existing PACs and territories following the 2019 Conservation Strategy for the California Spotted Owl in the Sierra Nevada, or more current guidance from the Pacific Southwest Region. If adequate suitable habitat remains, modify the boundary of the PAC to encompass the best remaining 300 acres of HQNR and BANRF habitat as per DES-PAC-01.	PACs
DC-PAC-01	Modify component language – PAC Desired Conditions	California Spotted Owl Protected Activity Centers Desired Conditions: Stands in each PAC have: (1) at least two tree canopy layers; (2) dominant and co-dominant trees with average diameters of at least 24 inches DBH; (3) at least 60 to 70 percent canopy cover; (4) some very large snags (greater than 45 inches DBH); and (5) snag and down woody material levels that are higher than average. p. 37	California Spotted Owl Protected Activity Centers Desired Conditions: PACs provide high-quality nesting and roosting habitat that contributes to successful reproduction of California spotted owls. PACs encompass habitat that is essential for nesting and roosting, as defined by the following characteristics: The habitat has a high canopy cover (including large clumps of more than 70 percent canopy cover), with multiple layers of tree canopy, and many large trees, very large trees, and snags (including some greater than 45 inches in diameter). Basal area and tree density tend toward the upper end of the range of desired conditions for the vegetation type. Large tree density, snag density, and coarse woody debris align with the old-forest desired conditions for the relevant forest vegetation type.	PACs
STD-PAC-03	Replace Components – S&G 75 and 77	S&G 75. For California spotted owl PACs: Maintain a limited operating period (LOP), prohibiting vegetation treatments within approximately ¼ mile of the activity center during the breeding season (March 1 through August 31), unless surveys confirm that California spotted owls are not nesting. Prior to implementing activities within or adjacent to a California spotted owl PAC and the location of the nest site or activity center is uncertain, conduct surveys to establish or confirm the location of the nest or activity center. S&G 77. The LOP may be waived for vegetation treatments of limited scope and duration, when a biological evaluation determines that such projects are unlikely to result in breeding disturbance considering their intensity, duration, timing and specific location. Where a biological evaluation	Limited Operating Period (LOP) To minimize disturbance that may lead to breeding failure, during the early breeding season (March 1 to July 9, or following current Pacific Southwest regional guidance) apply a LOP within 0.25 mile of the nest prohibiting: - activities that only generate noise or smoke (e.g., prescribed burning, hand thinning); - discretionary low-level helicopter flights or hovering over nests; and - discretionary landing of helicopters. For mechanical treatment, including helicopter logging, within approximately 0.25 mile of the nest or known roost site, apply a LOP during the breeding season from March 1 to August 31 or following current Pacific Southwest regional guidance.	PACs

		concludes that a nest site would be shielded from planned activities by topographic features that would minimize disturbance, the LOP buffer distance may be modified.	Where the location of a nest site within a PAC is unknown, apply the limited operating period to the entire PAC or determine the nest site location. Exceptions: The limited operating period may be modified or waived by the responsible official under the following circumstances: 1. Waived if monitoring or surveys indicate that nesting owls are absent (refer to current Pacific Southwest regional guidance). 2. Waived or modified for activities addressing imminent threats to life and property. 3. Waived or modified for activities of limited scope and duration, if a biologist determines that such activity is unlikely to result in breeding disturbance based on the intensity, duration, timing, and specific location. 4. The limited operating period buffer distance may be modified based upon a biologist's evaluation of the area needed to shield a nest site from disturbance considering topographic features, vegetation, or other screening. 5. Waived or modified for prescribed burning in up to 10 percent of PACs per year per national forest where necessary to facilitate the benefits of using early season prescribed fire.*	
STD-PAC-04	Add Standard for PAC DBH Limit	[None]	When conducting mechanical thinning within California spotted owl PACs, retain live conifer trees greater than 20 inches DBH.	PACs
GDL-PAC-02	Replace Component – S&G 71	S&G 71. Within the assessment area or watershed, locate fuels treatments to minimize impacts to PACs. PACs may be re-mapped during project planning to avoid intersections with treatment areas, provided that the re-mapped PACs contain habitat of equal quality and include known nest sites and important roost sites. Document PAC adjustments in biological evaluations. When treatment areas must intersect PACs and choices can be made about which PACs to enter, use the following criteria to preferentially avoid PACs that have the highest likely contribution to owl productivity: • lowest contribution to productivity: PACs presently unoccupied and historically occupied by territorial singles only. • PACs presently unoccupied and historically occupied by pairs, • PACs presently occupied by territorial singles;	To minimize potential impacts to California spotted owl reproductive success, vegetation treatments that may reduce habitat quality in the near term should be minimized or avoided in PACs with the highest likely contribution to reproductive success, otherwise occupancy status is prioritized as follows (from highest to lowest priority for treatment): 1. Currently unoccupied and historically occupied by territorial singles only. 2. Currently unoccupied and historically occupied by pairs. 3. Currently occupied by territorial singles. 4. Currently occupied by pairs. 5. Currently occupied by pairs and currently or recently reproductive.	PACs

		• PACs presently occupied by pairs; • highest contribution to productivity: PACs currently or historically reproductive. Historical occupancy is considered occupancy since 1990. Current occupancy is based on surveys consistent with survey protocol (March 1992) in the last 2-3 years prior to project planning. These dates were chosen to encompass the majority of survey efforts and to include breeding pulses in the early 1990s when many sites were found to be productive. When designing treatment unit intersections with PACs, limit treatment acres to those necessary to achieve strategic placement objectives and avoid treatments adjacent to nest stands whenever possible. If nesting or foraging habitat in PACs is mechanically treated, mitigate by adding acreage to the PAC equivalent to the treated acres using adjacent acres of comparable quality wherever possible.		
GDL-TERR-04	Add Guideline for DBH Limits in Territories	[None]	When conducting mechanical thinning treatments in California spotted owl territories, retain live shade-intolerant conifers greater than 24 inches DBH.	Territories
DC-SNAG-01	Add Desired Conditions for large snags	[None]	Large snags are scattered across the landscape, generally occurring in clumps rather than uniformly and evenly distributed, meeting the needs of species that use snags and providing for future downed logs.	Project-wide
DC-ECOS-01	Add Desired Conditions for ecosystems	[None]	Persistent populations of native, and desirable nonnative, plant and animal species are supported by healthy ecosystems, essential ecological processes, and land stewardship activities, and reflect the diversity, quantity, quality, and capability of natural habitats on the Forest. These ecosystems are also resilient to uncharacteristic fire, climate change, and other stressors, and this resilience supports the long-term sustainability of plant and animal communities.	Project-wide
DC-ECOS-02	Add Desired Conditions for ecological conditions	[None]	Ecological conditions for at-risk species support self-sustaining populations within the inherent capabilities of the plan area, including minimizing impacts from threats (such as disease and other site-specific threats). Ecological conditions provide habitat conditions that • contribute to the survival, recovery, and delisting of species under the Endangered Species Act; • preclude the need for listing new species; • and improve conditions for species of conservation concern.	Project-wide
DC-OLD-01	Add Desired Conditions for old forest	[None]	Old-forest areas are clumps and patches of old-forest components such as old trees, snags, and large downed logs. These areas are irregularly distributed across the landscape and interspersed with stands of younger trees, shrubs, meadows, other herbaceous vegetation, and unvegetated patches.	Project-wide

DC-OLD-02	Add Desired Conditions for old forest	[None]	The composition, structure, and functions of old forests and surrounding landscapes are resilient to fire, drought, insects, pathogens, and climate change. Fire occurs as a key ecological process in forest types that are adapted to fire, creating, restoring, and maintaining ecosystem resilience and fire-related composition and structure.	Project-wide
DC-OLD-03	Add Desired Conditions for old forest	[None]	The landscape contains a mosaic of vegetation types and structures that provide foraging and breeding habitat, movement, and connectivity for a variety of old-forest-associated species. Areas of moderate to high canopy cover composed primarily of large trees provide habitat connectivity for old-forest-associated species in key habitat corridors such as canyon bottoms and drainages.	Project-wide
DC-OLD-04	Add Desired Conditions for old forest	[None]	Old forests are composed of both vigorous trees and decadent trees. Clumps of large trees, snags, large logs, and decadent older trees are maintained on the landscape in sufficient numbers to benefit wildlife and are distributed throughout the planning area, considering constraints imposed by climate change, fire, insects, disease, and drought.	Project-wide
DC-OLD-05	Add Desired Conditions for old forest	[None]	Coarse woody debris is distributed in patches and the density of large downed logs varies by vegetation type. Surface dead wood levels are sufficient to provide for wildlife and legacy soil microbial populations.	Project-wide
DC-OLD-06	Add Desired Conditions for old forest	[None]	For mechanical thinning treatments in mature forest habitat (CWHR classes 4M, 4D, 5M, 5D, and 6) outside WUI defense zones: Where old trees larger than 24 inches DBH exist, the number and density of old trees vary by topographic position and soil moisture. In general, more large and old trees are found on moister sites; on lower slopes, bottoms, and north and east aspects, especially where soils are deeper. Large trees are well distributed but are often clumpy. The densities vary by forest type. Trees greater than 40 inches DBH, generally over 150 years old, represent the oldest trees, and comprise a significant proportion of large and old trees. In areas of high soil productivity, trees may grow to large sizes in fewer than 100 years. On low and very low soil productivity sites, the oldest trees may be smaller in diameter. Enough younger trees are present to provide for recruitment of old trees over time.	Project-wide
MAN-NEST-01	Add Desired Conditions for CSO nest sites across landscape	[None]	The _____ National Forest supports conditions for a sustainable network of dynamic, resilient, and widely distributed California spotted owl nest or roost sites and habitat across heterogeneous landscapes.	Project-wide
STD-SNAG-01	Add standard for snag retention	[None]	Retain all snags greater than 45 inches diameter unless they pose a threat to life or property.	Project-wide
GDL-SNAG-01	Modify guideline for	S&G 11. Determine snag retention levels on an individual project basis for vegetation treatments. Design projects to implement and sustain a generally continuous supply of snags and live decadent trees suitable for cavity nesting	To provide habitat for nesting, roosting, and denning wildlife, maintain a generally continuous supply of snags and live decadent trees suitable for cavity dwelling wildlife across a landscape.	Project-wide

	snag retention	wildlife across a landscape. Retain some mid- and large diameter live trees that are currently in decline, have substantial wood defect, or that have desirable characteristics (teakettle branches, large diameter broken top, large cavities in the bole) to serve as future replacement snags and to provide nesting structure. When determining snag retention levels and locations, consider land allocation, desired condition, landscape position, potential prescribed burning and fire suppression line locations, and site conditions (such as riparian areas and ridge tops), avoiding uniformity across large areas. General guidelines for large snag retention are as follows: • westside mixed conifer and ponderosa pine types—four of the largest snags per acre • red fir forest type—six of the largest snags per acre • eastside pine and eastside mixed conifer forest types—three of the largest snags per acre • westside hardwood ecosystems—four of the largest snags (hardwood or conifer) per acre ○ where standing live hardwood trees lack dead branches—six of the largest snags per acre (where they exist to supplement wildlife needs for dead material). Use snags larger than 15 inches dbh to meet this guideline. Snags should be clumped and distributed irregularly across the treatment units. Consider leaving fewer snags strategically located in treatment areas within the WUI. When some snags are expected to be lost due to hazard removal or the effects of prescribed fire, consider these potential losses during project planning to achieve desired snag retention levels.	Retain some mid- and large diameter live trees that are currently in decline, have substantial wood defect, or that have desirable characteristics (teakettle branches, large diameter broken top, large cavities in the bole) to serve as future replacement snags and to provide nesting structure. Consider vegetation type and landscape position, potential prescribed burning and fire suppression line locations, and site conditions (such as riparian areas and ridge tops), avoiding uniformity across large areas. General guidelines for large-snag retention are as follows: • westside mixed conifer and ponderosa pine types – 25-40 of the largest snags per 10 acres • red fir forest type – 30 – 50 of the largest snags per 10 acres • eastside pine and eastside mixed conifer forest types – 15-30 of the largest snags per 10 acres • westside hardwood ecosystems – 25-40 of the largest snags (hardwood or conifer) per 10 acres Retain snags larger than 15 inches dbh (preferentially greater than 20 inches dbh) to meet this guideline. Retain snags in an irregular patchwork, with clumps and concentrations in drainages and on north- and east-facing slopes. When some snags are expected to be lost due to hazard removal or the effects of prescribed fire, consider these potential losses during project planning to achieve desired snag retention levels.	
SUIT-CSO-01	Add Timber Suitability	[None]	California spotted owl PACs are not suitable for timber production. Timber harvest may be authorized for safety and restoration toward desired conditions.	Project-wide
GDL-RXB-01	Add Guideline for prescribed burning	[None]	Firing patterns, burn unit layout, and other firing and holding methods during burning should limit the killing of large old trees and loss of very large snags. Consider preventing delayed tree mortality caused by smoldering at the base of large old trees and consider constructing fireline around large old trees and very large snags to reduce the risk of tree ignition while addressing firefighter safety. Limit fire intensity in areas with large old trees and very large snags where possible. OR	Prescribed Fire

			To retain large old trees and very large snags important to old forest associated species, where possible given firefighter safety, prescribed burning operations should: • construct fireline around large trees and very large snags where appropriate; • develop firing patterns, burn unit layout, and firing and holding methods to: • avoid igniting large trees and very large snags; • limit fire intensity in areas with large old trees and very large snags. <i>Both have the same intent.</i>	
GDL-RXB-02	Add Guideline for prescribed burning	[None]	To minimize the spatial extent of high-severity fire impacts on habitat in California spotted owl territories, when implementing prescribed fire in the portion of the territory outside of the PAC, limit the size of high-severity burn patches to generally not exceed 10 acres and to avoid exceeding 100 acres.	Prescribed Fire
DC-FIRE-01	Add Desired Conditions for forests post-fire	[None]	To provide future habitat for old-forest-associated species following a large-scale, high-severity disturbance in an area that had large trees and high canopy cover prior to the disturbance, identify, retain and promote the best available patches of remaining high-quality nesting, foraging, and denning habitat (6, 5D, 5M, 4D, 4M in descending order of priority). Desired conditions for amount, location, and configuration of retention should be informed by site conditions, aspect, position on slope, and the potential to restore habitat connectivity. Exception: Modify as needed in WUI defense.	Post-Fire Disturbance
STD-MON-01	Add monitoring standard	[None]	Acres of suitable habitat treated will be tracked yearly inside and outside of territories, and owl occupancy in the project area will be monitored pre- and post-implementation following the Regional California spotted owl monitoring framework.	Project-wide

XI. APPENDIX D: HIGH RISK FIRESHEDS

Figure D1. [Map of Fireshed Registry Project Areas](#) that may use alternate STD-TERR-1B.

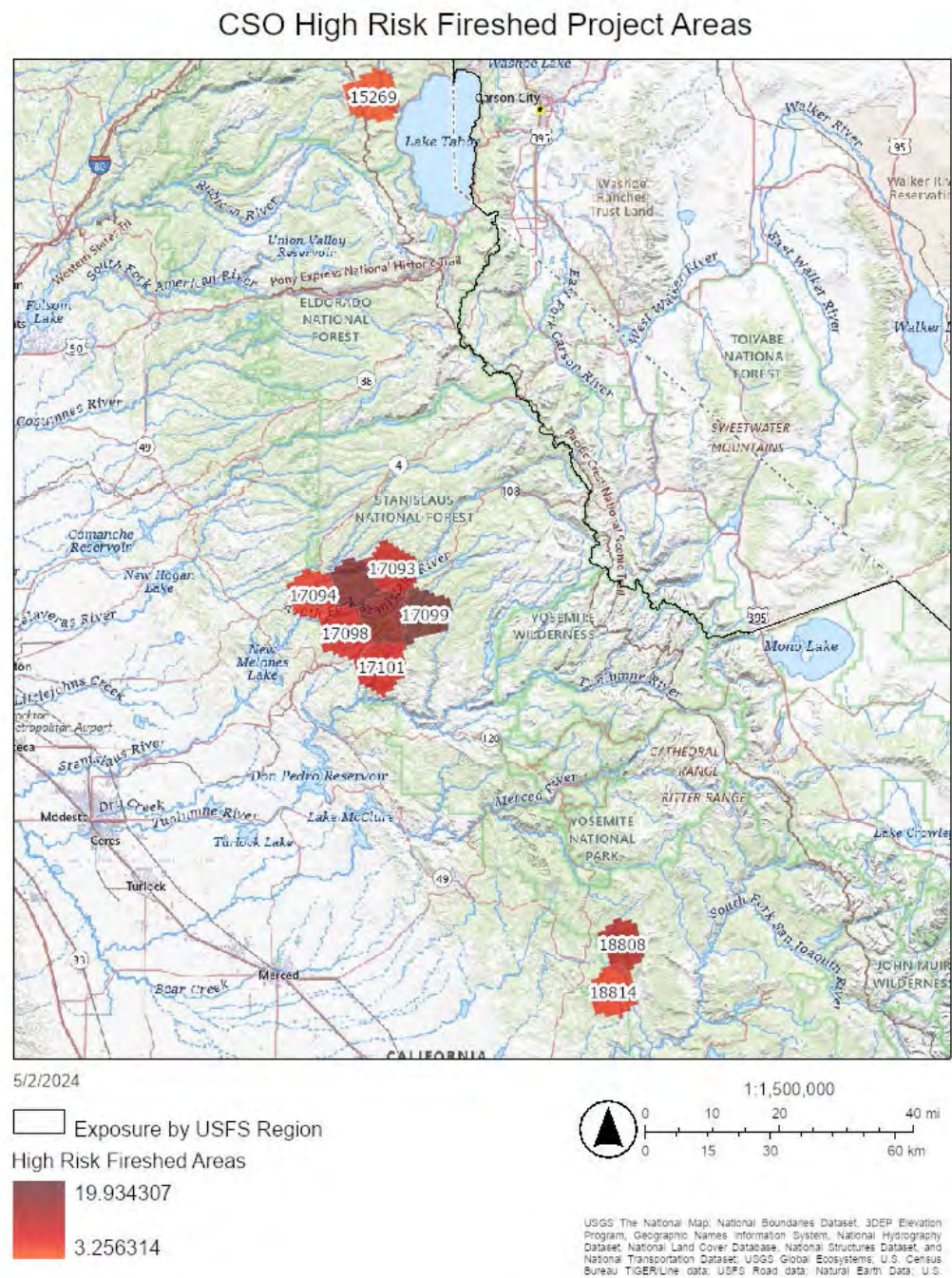


Table D1. Fireshed Registry Project Areas that may use alternate DC-TERR-01.

Fireshed Name	Project Area ID¹	Acres	Average Annual Exposure (Managed Stands)
Martinez, California	17099	27,958	10.56
Martinez, California	17095	23,922	9.64
Martinez, California	17097	27,958	9.04
Oakhurst, California	18808	24,211	7.37
Martinez, California	17093	27,382	6.30
Martinez, California	17101	29,111	5.77
Martinez, California	17098	28,247	5.66
Martinez, California	17094	26,806	4.64
Oakhurst, California	18814	27,668	4.62
Lake Forest, California	15269	30,263	3.96

¹Fireshed Registry Project Areas are areas delineated by regular-sized units as specified in [RMRS-GTR-425](#). They are not NEPA Project Areas.

XII. APPENDIX E: CALIFORNIA WILDLIFE HABITAT RELATIONSHIPS

Table E1. Suitable habitat for the CSO using the California Wildlife Habitat Relationships (CWHR). Taken from Table 2 of the 2019 CSO Strategy.

CHWR Classification	Tree Size QMD	CWHR Canopy Class	Canopy Cover
4D	11 to 24"	Dense cover	60 to 100 percent
4M	11 to 24"	Moderate cover	40 to 59 percent
5D	more than 24"	Dense cover	60 to 100 percent
5M	more than 24"	Moderate cover	40 to 59 percent
6	more than 24"	Multilayered canopy with dense cover	

XIII. ACRONYMS, ABBREVIATIONS, AND GLOSSARY

BA	Basal Area. The cross-sectional surface area, at DBH, of an individual tree or tree boles in an area.
CSO	California Spotted Owl (<i>Strix occidentalis occidentalis</i>)
CWHR	California Wildlife Habitat Relationships. See Table 2. in the 2019 CSO Strategy for further definition.
DBH	Diameter at breast-height.
Mechanical Treatment	The felling and removal of trees using heavy machinery.
Nest Structure	Any structure in or on which a CSO breeding pair has chosen for their nest site.
PAC	Protected Activity Center.
QMD	Quadratic Mean Diameter. The diameter of a tree that has the average basal area of trees in the stand.
rSDI	Relative Stand Density Index. See SDI .
SDI	Stand Density Index. Used to predict carrying capacity and competition of a stand.
Stand	Uniform collection of trees in a contiguous area that is distinguishable from other collections of trees and managed separately.
Vegetation Treatment	Activities that alter the vegetative condition of the treatment area.

Region 5 California Spotted Owl Project-Specific Plan Amendment

Background

Recent projects within the [2004 Sierra Nevada Forest Plan Amendment](#) (i.e., “Framework”) footprint have been incorporating project-specific plan amendments regarding California spotted owl (CSO) habitat. These amendments are intended to align with the management recommendations in the 2019 [California Spotted Owl Conservation Strategy](#) (Conservation Strategy).

January 2024 Regional Forester Direction

A letter from Regional Forester Jennifer Eberlien directed Framework forests with projects that contain Conservation Strategy related amendments to coordinate with the Regional Office and use consistent amendment language. In response, Region 5 Ecosystem Planning, working with Region 5 Ecosystem Management, has developed plan amendment components that are required for projects that 1) may impact California spotted owl habitat in the Sierra Nevada and 2) are pursuing a project-specific forest plan amendment.

June 2024 Project-Specific Plan Amendment Components

The Region 5 California Spotted Owl Project-Specific Plan Amendment components incorporate updated scientific information given the need to update our management approaches due to wildfire threats to California spotted owl. The amendment components are provided to ensure consistency and efficiency in project planning and Endangered Species Act consultation.

Projects that require a project-specific amendment to align with their revised land management plans (Inyo, Sierra, and Sequoia national forests and Lake

Tahoe Basin Management Unit) or the Framework (Eldorado, Lassen, Modoc, Plumas, Stanislaus, and Tahoe national forests) must use the Region 5 project-specific amendment.



Figure 1 Region 5 forests falling within the footprint of the 2004 Sierra Nevada Forest Plan Amendment (outlined in red) are required to use the June 2024 Region 5 amendment components if pursuing a project-specific amendment that would affect California spotted owls.

Is the project-specific plan amendment process required for all projects?

No, the amendment process is NOT required. If forests choose to align projects with the Framework or their existing land management plan, there is no need for an amendment.

How were the project-specific plan amendment components developed?

The amendment components were developed collaboratively based on forest plan content in the 2023 Sierra and Sequoia Forest Plans and modified based on 1) lessons learned from recent project-specific forest plan amendments, 2) feedback from

internal and external engagement, and 3) the draft California Spotted Owl programmatic consultation.

How does the project-specific plan amendment differ from the Framework?

The project-specific plan amendment addresses wildfire threats to both forest and owls by balancing treatments with habitat conservation. Specifically, the project-specific plan amendment components differ from the Framework plan content in the following ways:

- Shifts from mapping home range core areas (HRCAs) to territories;
- Allows more intensive treatment in territories;
- Allows for more reduction of canopy cover in territories;
- Includes a wider range of suitable habitat in the desired condition, and steers activities to produce more heterogenous habitat;
- Allows limited treatments in protected activity centers (PACs);
- Contains plan content with lower habitat retention thresholds in wildland urban interface (WUI) Defense Zones, fuelbreaks, and areas identified as being very high risk in fire risk assessments.

Do the project-specific plan amendment components align with Endangered Species Act consultation?

The project-specific plan amendment components are in-line with the options in the programmatic Biological Assessment that Region 5 Ecosystem Management developed in coordination with the U.S. Fish and Wildlife Service. The amendment can guide project design to align with the programmatic consultation, which will significantly increase project planning efficiency.

Can changes be made to the project-specific plan amendment components?

The project-specific plan amendment components are a “living document” that may be updated by the Regional Office based on what we learn through the

process of incorporating the amendment components into projects.

How do we get started?

If your forest is considering a project-specific plan amendment, **contact Region 5 Ecosystem Planning for support** as early as possible, ideally prior to scoping. Early coordination is especially important because the amendment will affect project design and there are specific public notification requirements throughout the amendment process. Through early and continued coordination, we can ensure the intent of the amendment is carried out in the project design and reflected in the analysis efficiently and effectively.



Figure 2 If considering a project-specific plan amendment, engage with the regional office prior to scoping, and during project design and analysis.

Will the project-specific plan amendment components be shared publicly?

We will publish the project-specific plan amendment components on the [Region 5 planning website](#) (external). Forest staff and leadership are encouraged to share the website link with partners and other interested stakeholders, as appropriate.

Where can I find more information or support?

- Project-specific plan amendment components and supporting resources are available at the [CSO Project Specific Plan Amendment SharePoint](#) site (internal).
- Region 5 [guidance](#) for mapping CSO territories is also available on Pinyon (internal).
- For more information about the amendment process, contact **Regional Planner, Michael Carson**, michael.carson@usda.gov.



File Code: 1920; 2670

Date: June 25, 2024

Route To:

Subject: R5 CSO Project-Specific Plan Amendment

To: Forest Supervisors for Eldorado, Inyo, Lassen, Modoc, Plumas, Stanislaus, Sequoia, Sierra, and Tahoe National Forests and the Lake Tahoe Basin Management Unit

In January 2024, Regional Forester Jennifer Eberlien directed forests with projects that contain 2019 California Spotted Owl (CSO) Conservation Strategy-related amendments to work with the Regional Office on the plan amendment process and use consistent amendment language. In support of that updated policy, Region 5 Ecosystem Planning, working with Region 5 Ecosystem Management, has developed plan amendment components (attached) that are required for projects that may impact California spotted owl habitat in the Sierra Nevada and are pursuing a project-specific forest plan amendment.

Forests are not required to pursue project-specific amendments if projects align with their revised land management plans (Inyo, Sierra, and Sequoia national forests and Lake Tahoe Basin Management Unit) or the 2004 Sierra Nevada Forest Plan Amendment “Framework” (Eldorado, Lassen, Modoc, Plumas, Stanislaus, and Tahoe National Forests).

The new amendment components incorporate updated scientific information based on the 2019 California Spotted Owl Conservation Strategy and the need to adapt our management approaches due to wildfire threats to spotted owl habitat. The amendment components were developed collaboratively based on forest plan content in the 2023 Sierra and Sequoia Forest Plans and modified based on lessons learned from recent project-specific forest plan amendments, feedback from internal and external engagement, and the draft CSO Programmatic Consultation. The plan amendment components may be updated by the Regional Office based on lessons learned as the components are incorporated into projects.

A key outcome of the collaborative process was alignment with the draft programmatic Biological Assessment that Ecosystem Management developed in coordination with the U.S. Fish and Wildlife Service. You can use the amendment to guide your project design in a way that will align with the programmatic consultation, which will significantly increase the efficiency of your planning process.

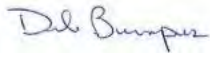
This information will be shared with biologists, planners, and natural resource staff on your forests in the coming weeks and supporting materials will be available on the [CSO Project Specific Plan Amendment SharePoint](#) site (internal) as they become available. We will also be publishing the amendment components on our public-facing [Region 5 planning website](#) (expected publication week of July 1) and encourage you to share a link to the website with interested partners and stakeholders, as appropriate. If you have any questions about the plan



Forest Supervisors for Eldorado, Inyo, Lassen, Modoc, Plumas, Stanislaus, Sequoia, Sierra, and Tahoe
National Forests and the Lake Tahoe Basin Management Unit

2

amendment components or amendment process, please contact Regional Planner Michael
Carson, Michael.Carson@usda.gov.



DEB BUMPUS

Director, Ecosystem Planning (Acting)

Project-specific Plan Amendment Components, Fact Sheet

cc: Liz Berger, Diana Craig, Michael Carson, Talitha Derksen

Project-specific Surveys (as referenced in Conservation Measure Classes 1, 2, and 3)

Conduct surveys for owls in areas where management activities may manipulate (e.g., downgrade, maintain/improve, or remove) owl habitat, disrupt essential breeding activities, or injure or otherwise harm owls. Unless otherwise agreed to by the Service, callback or acoustically assisted survey methodology should follow the latest protocols approved by the Service for the purposes of this programmatic consultation. In areas where barred owls are believed to be absent, the current protocols are Forest Service (1993) and Kramer et al. (2023). In areas where barred owls are known to occur or could be present, the current protocols are Service (2012) and Service (2021 and subsequent updates). If surveys are not conducted or do not follow Service-approved methods, assume owls are present in suitable nesting/roosting and foraging habitat.

Conservation Measures for Vegetation Management Activities

Table X: Comparison of Class 1, 2, and 3 conservation measures for vegetation management activities. Underlined text emphasizes differences between classes, italicized text emphasizes repetition between classes.

Class 1 (Vegetation Management)	Class 2 (Vegetation Management)	Class 3 (Vegetation Management)
1. Designate activity centers and Protected Activity Centers (PACs): a. Survey areas that may elicit a response from a resident owl or pair of owls (e.g., nesting/roosting, foraging habitat) in advance of any management activities that would affect owls, following Service-approved survey methods. i. If surveys are not conducted or do not follow Service-approved methods, assume owls are present in suitable nesting/roosting and foraging habitat. b. Designate owl activity centers and PACs where appropriate based on	1. <i>Same as Class 1 Measure #1.</i>	1. <i>Same as Class 1 Measure #1.</i>

Class 1 (Vegetation Management)	Class 2 (Vegetation Management)	Class 3 (Vegetation Management)
survey results, following applicable Forest Service Forest Plan direction.		
2. Protect individual owls and active nesting: a. Implement a limited operating period within 0.25 mile of an active nest or roost site (if known) or within a PAC (if active nest/roost site is not known), or in and within 0.25 mile of nesting/roosting habitat (if surveys were not conducted in habitat). For activities that only generate noise or smoke (e.g., prescribed burning, hand thinning), implement a limited operating period from March 1 through July 9. For habitat-manipulating activities (e.g., mechanical treatments, large-scale hazard tree removal), implement a limited operating period from March 1 through August 31. i. Limited operating periods may be discontinued in a given year if protocol-level surveys for determining reproductive status confirm owls are not nesting or fledglings have dispersed in that calendar year. ii. Transient, short duration activities outside of the nest stand that take	2. Protect individual owls and active nesting: a. <u>In coordination with the Service during consultation, limited operating periods (March 1–July 9 for noise and smoke disturbance; March 1–August 31 for habitat manipulation) outside of an active nest stand may be modified in size or timing. A biological analysis conducted by the Forest or District Biologist and associated rationale that concludes that a project may still minimize or avoid breeding disturbance or failure must be provided in the Project Documentation Form during the consultation process. The biological analysis should consider the intensity, duration, timing, specific location of the activity, and other relevant factors such as topography and vegetation that buffers sound levels.</u> i. <u>In an active nest stand, the full limited operating periods (March 1–July 9 for noise and smoke disturbance; March 1–August 31 for habitat manipulation) must be implemented. These limited operating periods may be</u>	2. Protect individual owls and active nesting: a. In coordination with the Service during consultation, limited operating periods (March 1–July 9 for noise and smoke disturbance; March 1–August 31 for habitat manipulation) outside of an active nest stand may be modified in size or timing. <u>A biological analysis in a Project Documentation Form should describe methods for minimizing or avoiding disturbance to owls during the reproductive season to the greatest extent possible.</u> The biological analysis should consider the intensity, duration, timing, specific location of the activity, and other relevant factors such as topography and vegetation that buffers sound levels. i. Same as Class 2 Measure #2.a.i.

Class 1 (Vegetation Management)	Class 2 (Vegetation Management)	Class 3 (Vegetation Management)
place over the course of one day or less do not need to follow the limited operating periods (for example, clearing a few hazard trees using a chainsaw along a trail, repairing potholes along a road). The Forest Service may coordinate with the Service to ensure proposed activities fit within this exception to the limited operating period.	<u>discontinued in a given year if protocol-level surveys for determining reproductive status confirm owls are not nesting or fledglings have dispersed in that calendar year.</u>	
3. Maintain or enhance special habitat elements for owls throughout the project area: a. To support current and future owl life history activities, retain enough large, old trees and snags. i. Maintain and promote large, old, and structurally complex trees and snags throughout the landscape to provide and promote quality owl nesting and roosting habitat (i.e., containing decadent structures or attributes that require decades to develop). ii. Maintain the largest/tallest trees (generally greater than 150 feet tall and/or 30 inches dbh), especially where biophysical conditions are	3. <i>Same as Class 1 Measure #3.</i>	3. <i>Same as Class 1 Measure #3, except:</i> a. <u>To the extent practicable, retain large, old trees and snags while maintaining enough to support habitat function and to develop future nesting sites.</u>

Class 1 (Vegetation Management)	Class 2 (Vegetation Management)	Class 3 (Vegetation Management)
likely to be sustainable to support both high canopy cover and large/tall trees in the future. b. To support current and future nesting sites, retain enough live trees more than 30 inches dbh in occupied PACs, territories, and throughout the landscape. Removal of live trees greater than 30 inches dbh may occur in the following specific circumstances as described below and/or determined in collaboration with the Service. i. Removal of select shade-tolerant trees to promote retention and growth of existing shade-intolerant pine species in the same area of comparable size, such as ponderosa pine or sugar pine, or shade-intolerant broadleaved species, such as black oak or aspen. ii. Removal of select shade-tolerant trees to promote the establishment, growth, and development of stands with multiple size and age classes and create small gaps to increase resilience of owl habitat to natural disturbances (e.g., large-scale wildfire; tree mortality due to drought, insects, and disease).		

Class 1 (Vegetation Management)	Class 2 (Vegetation Management)	Class 3 (Vegetation Management)
iii. Thinning of trees in homogeneous plantations where large diameter trees are at risk due to competition. iv. Removal of conifers for restoration of other key habitat types such as meadows, oaks, or aspen groves or for cultural or Tribal importance. v. In the case of imminent threat to life and property. c. To maintain habitat for prey populations and promote ecological processes, manage forest stands for coarse woody debris. i. Align density of coarse woody debris, including large downed logs in varying states of decay, with old-forest desired conditions for the relevant forest vegetation type according to applicable Forest Service Forest Plan.		
4. Foster development of nesting/roosting habitat and habitat connectivity at the watershed scale and importantly at the PAC and territory scale: a. To develop future nesting sites, retain clumps or groups of largest/tallest trees (generally greater than 150 feet tall	4. <i>Same as Class 1 Measure #4.</i>	4. <i>Same as Class 1 Measure #4.</i>

Class 1 (Vegetation Management)	Class 2 (Vegetation Management)	Class 3 (Vegetation Management)
and/or 30 inches dbh) with high canopy cover (generally greater than 70 percent). b. To promote habitat connectivity at the watershed scale, retain connected areas of moderate (generally at least 40 percent) and high (generally at least 60 percent) canopy cover with the largest/tallest trees (generally greater than 150 feet tall and/or 30 inches dbh). c. Increase resiliency to natural disturbances (e.g., large-scale wildfire; tree mortality due to drought, insects, and disease) at the watershed scale by reducing tree density of smaller trees that are competing with larger trees. Thinning treatments should be designed to minimize the loss of and to recruit large and very large trees and snags (e.g., generally at least 24 inches dbh for large trees and at least 45 inches dbh for very large snags).	<i>DRAFT</i>	<i>DRAFT</i>
5. When treating within PACs, retain existing habitat types (i.e., nesting/roosting, foraging) and habitat function. Habitat may be maintained/improved. Do not downgrade or remove existing habitat of any type:	5. <i>Same as Class 1 Measure #5</i>, except: c. <u>Maintain or</u> increase the quadratic mean diameter for the PAC as a whole.	5. When treating within PACs, <u>retain all existing nesting/roosting habitat</u>. <u>Nesting/roosting habitat may be maintained/improved</u>. <u>Do not downgrade or remove existing nesting/roosting habitat</u>.

Class 1 (Vegetation Management)	Class 2 (Vegetation Management)	Class 3 (Vegetation Management)
a. Avoid mechanical treatments within a 10-acre nest stand surrounding the most recent known nest tree or nest structure. b. Retain historic and recent known owl nest trees or known nest structures. c. Increase the quadratic mean diameter for the PAC as a whole. d. Maintain a minimum of 50 percent canopy cover, averaged at the PAC scale. e. Use existing landings or other openings for equipment staging to the greatest extent possible. If new staging areas must be created, canopy gaps must be less than 0.25 acre. f. Prescribed fire and/or hand treatments are acceptable within a nest stand outside of the Limited Operating Period (refer to Class 1 Conservation Measure #2). i. To maintain habitat function and to avoid loss or damage to known nest trees, include mitigation measures when conducting prescribed fire in PACs (e.g., prepare burn units by initially reducing fuel loads with hand treatments, raking around nest		a. <i>Same as Class 1 Measure #5.a.</i> b. Retain historic and recent known owl nest trees or known nest structures, <u>with the rare exception of hazard trees that are a threat to life or property.</u> c. Maintain or increase the quadratic mean diameter <u>within nesting/roosting habitat throughout the PAC.</u> d. <u>Maintain sufficient canopy cover for nesting/roosting habitat based on the best available science.</u> e. <i>Same as Class 1 Measure #5.e.</i> f. <i>Same as Class 1 Measure #5.f.</i>

Class 1 (Vegetation Management)	Class 2 (Vegetation Management)	Class 3 (Vegetation Management)
trees, putting lines around nest trees).		
6. When mechanically treating within territories and outside of PACs: a. If territory contains at least 60% habitat (i.e., nesting/roosting, foraging) pre-treatment, retain at least 60% of the habitat in the territory in priority of nesting, roosting, then foraging habitat. Habitat may be maintained/improved. [Territory percentages include PAC acres.] i. Territories with moist vegetation types and site conditions (e.g., mesic conditions and at higher elevations in the watershed) should contain more of this habitat than those with dry vegetation types and site conditions (e.g., drier conditions and at lower elevations in the watershed). Territories may contain a mix of vegetation types and site conditions. Project analyses should consider site conditions. ii. Promote forest heterogeneity in the remainder of the territory by managing for many different	6. When mechanically treating within territories and outside of PACs: a. <u>If territory contains at least 60% habitat (i.e., nesting/roosting, foraging) pre-treatment, retain at least 40-59% of the habitat in the territory in priority of nesting, roosting, then foraging habitat. Habitat may be maintained/improved.</u> [Territory percentages include PAC acres.] i. <i>Same as Class 1 Measure #6.a.i.</i> ii. <i>Same as Class 1 Measure #6.a.ii.</i> b. <u>If territory contains between 40-59% habitat (i.e., nesting/roosting, foraging) pre-treatment, retain all existing nesting/roosting habitat while retaining at least 40% of the total habitat in the territory. Habitat may be maintained/improved.</u> [Territory percentages include PAC acres.] i. <i>Same as Class 1 Measure #6.a.i.</i> ii. <i>Same as Class 1 Measure #6.a.ii.</i>	6. When mechanically treating within territories and outside of PACs: a. <u>If territory contains at least 40% habitat (i.e., nesting/roosting, foraging) pre-treatment, retain at least 40% of the habitat in the territory. Habitat may be maintained/improved.</u> [Territory percentages include PAC acres.] i. <i>Same as Class 1 Measure #6.a.i.</i> ii. <i>Same as Class 1 Measure #6.a.ii.</i> b. <u>If territory contains less than 40% habitat (i.e., nesting/roosting, foraging) pre-treatment, retain all existing habitat in the territory. Habitat may be maintained/improved.</u> [Territory percentages include PAC acres.] i. <i>Same as Class 1 Measure #6.a.i.</i> ii. <i>Same as Class 1 Measure #6.a.ii.</i>

Class 1 (Vegetation Management)	Class 2 (Vegetation Management)	Class 3 (Vegetation Management)
structure and canopy classes at the stand level and territory level (consistent with characteristics of the terrestrial vegetation type). b. If territory contains less than 60% habitat (i.e., nesting/roosting, foraging) pre-treatment, retain all existing nesting/roosting and foraging habitat in the territory. Habitat may be maintained/improved. [Territory percentages include PAC acres.] i. <i>Same as Class 1 Measure #6.a.i.</i> ii. <i>Same as Class 1 Measure #6.a.ii.</i>	c. <u>If territory contains less than 40% habitat (i.e., nesting/roosting, foraging) pre-treatment, retain all existing nesting/roosting and foraging habitat in the territory. Habitat may be maintained/improved.</u> [Territory percentages include PAC acres.] i. <i>Same as Class 1 Measure #6.a.i.</i> ii. <i>Same as Class 1 Measure #6.a.ii.</i>	

Conservation Measures for Other Activity Types Not Associated with Vegetation Management

Table X: Comparison of Class 1 and 2 conservation measures for other activity types not associated with vegetation management. Underlined text emphasizes differences between classes, italicized text emphasizes repetition between classes. Refer to the vegetation management conservation measures for projects that are unable to follow Class 1 or Class 2 measures for other activity types.

Class 1 (Other Activity Types)	Class 2 (Other Activity Types)
1. Designate activity centers and Protected Activity Centers (PACs): a. Survey areas that may elicit a response from a resident owl or pair of owls (e.g., nesting/roosting, foraging habitat) in advance	1. <i>Same as Class 1 Measure #1.</i>

Class 1 (Other Activity Types)	Class 2 (Other Activity Types)
of any management activities that would affect owls, following Service-approved survey methods. i. If surveys are not conducted or do not follow Service-approved methods, assume owls are present in suitable nesting/roosting and foraging habitat. b. Designate owl activity centers and PACs where appropriate based on survey results, following applicable Forest Service Forest Plan direction.	
2. Protect individual owls and active nesting: a. Implement a limited operating period within 0.25 mile of an active nest or roost site (if known) or within a PAC (if active nest/roost site is not known), or in and within 0.25 mile of nesting/roosting habitat (if surveys were not conducted in habitat). For activities that generate noise to levels that could impact an owl, implement a limited operating period from March 1 through July 9. i. The limited operating period may be discontinued in a given year if protocol-level surveys for determining reproductive status confirm owls are not nesting in that calendar year. ii. Transient, short duration activities outside of the nest stand that take place over the course of one day or less do not need to follow the limited operating period (for example, clearing a few hazard trees using a chainsaw along a trail, repairing potholes along a road). The Forest Service may coordinate with the Service to ensure proposed activities fit within this exception to the limited operating period.	2. Protect individual owls and active nesting: a. <u>In coordination with the Service during consultation, the limited operating period (March 1 through July 9 for noise disturbance) outside of an active nest stand may be modified in size or timing. A biological analysis conducted by the Forest or District Biologist and associated rationale that concludes that a project may still minimize or avoid breeding disturbance or failure must be provided in the Project Documentation Form during the consultation process. The biological analysis should consider the intensity, duration, timing, specific location of the activity, and other relevant factors such as topography and vegetation that buffers sound levels.</u> i. <u>In an active nest stand, the full limited operating period (March 1-July 9) must be implemented. The limited operating period may be discontinued in a given year if protocol-level surveys for determining reproductive status confirm owls are not nesting in that calendar year.</u>

Class 1 (Other Activity Types)	Class 2 (Other Activity Types)
iii. Activities that are within high use developed areas do not need to follow the limited operating period. The Forest Service may coordinate with the Service to ensure proposed activities fit within this exception to the limited operating period.	
3. Do not remove suitable habitat nor reduce habitat function in territories.	3. <u>If removing or reducing habitat function, see vegetation management conservation measures.</u>
4. Do not use rodenticides in suitable owl habitat.	4. <u>Avoid or limit the use of rodenticides in occupied territories.</u>
5. Limit the removal of large trees, snags, or logs to only those that are necessary to achieve project goals.	

Class 3 (Other Activity Types)

Projects implementing other activity types that are not able to follow Class 1 or Class 2 conservation measures, the scale and scope of the project is similar to the vegetation management activities because these projects will result in significant effects to owls due to the removal or reduction of suitable owl habitat. For projects not able to follow Class 1 or Class 2 Other Activity Types conservation measures, refer to the Vegetation Management conservation measures.

Definitions

Definitions are based on best available scientific information from peer-reviewed primary literature, species assessments, and conservation strategies and also adapted based on existing regulatory documents such as Forest Plans and programmatic consultations.

Areas of ecological importance at different spatial scales

Known nest tree: A specific tree that has been documented to support a CSO nest.

Suitable nest tree: A tree that is of the appropriate size, type, and condition to potentially support a CSO nest. California spotted owls' nest trees are a subset of large live trees or snags. Nest tree size varies by tree type, with an average size of 49 inches dbh and 103 feet tall for conifers (North et al. 2000, Verner et al. 1992), compared to an average size of 30 inches dbh and 55 feet tall for hardwoods (Gutiérrez et al. 1992) in the Sierra Nevada. Spotted owls rely on trees with multi-layered high canopy cover with open cavities (created by fallen branches, woodpeckers, etc.), broken tops, platforms, and old raptor nests (Gutiérrez et al. 2020). The nest tree chosen within a territory is typically one of the oldest and largest live or dead trees within the nesting territory with many defects like cracks, disease scars, or decaying wood (Verner et al. 1992; North et al. 2000). CSOs tend to avoid nest trees close to forest edges with sharp contrast, such as large trees adjacent to shrubs (Phillips et al. 2010).

Nest stand: Forest stand containing the location of a nest and used for egg development through juvenile post-fledge rearing. Nest stands have fine-scale habitat features important for breeding, including high canopy cover (in general, at least 70 percent), abundant large trees (typically more than 24 inches dbh), multiple canopy layers dominated by medium-sized trees (12 to 24 inches dbh) and higher-than-average basal area (185 to 350 square feet per acre) (Bias and Gutierrez 1992, Blakesley et al. 2005, Chatfield 2005, Gutierrez et al. 1992, Moen and Gutierrez 1997, North et al. 2000, Roberts et al. 2011, Verner et al. 1992). CSOs selection for tall tree cover is greatest within the nest stand (approximately 10 acres surrounding a nest) compared to the protected activity center or territory (North et al. 2017a). For the purposes of this document, we consider the nest stand to be the 10-acre area surrounding an active nest.

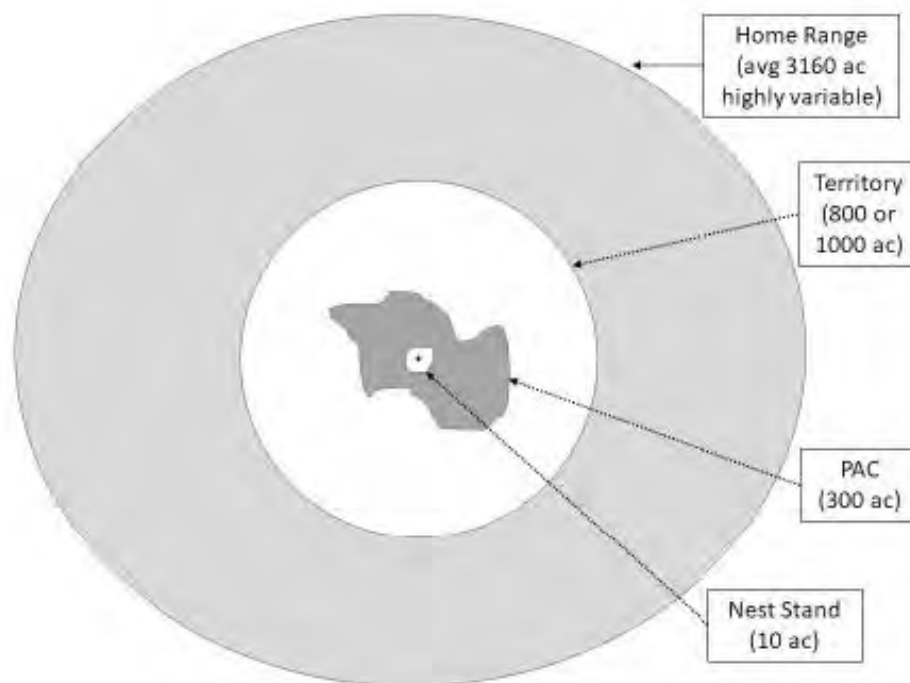
Activity center: Area around an active nest (if known), suspected nest stand, or area of repeated roosting, based on owl territorial behavior. Activity centers are where CSO have long-term nesting and roosting use within the territory (Verner et al. 1992; Gutiérrez et al. 2017).

Protected activity center: A land allocation designated by the Forest Service to protect the best available 300 acres of nesting/roosting habitat surrounding and including a known activity center in as compact an area as possible.

Territory (also called Core Area): The area in a home range that is defended by a resident single or pair of owls from members of the same species. A territory is consistently used for nesting, roosting, and foraging and contains essential habitat for survival and reproduction (Bingham and Noon 1997, Blakesley et al. 2005, Gutiérrez et al. 1995, Rosenberg and McKelvey 1999, Swindle et al. 1999, Williams et al. 2011). Scientists in the central Sierra Nevada have defined the core area as a radius equal to half the mean-nearest-neighbor distance between the centers of adjacent owl sites. This equates to a distance of 0.7 mile and an area of 1,000 acres (Jones et al.

2017, Seamans and Gutiérrez 2007, Tempel et al. 2014). For the purposes of this document, we consider territory size to be 800 acres in the southern Sierra Nevada National Forests (Inyo, Sierra, and Sequoia) and 1,000 acres in the north and central Sierra Nevada National Forests (Modoc, Lassen, Plumas, Tahoe, Eldorado, Stanislaus and Lake Tahoe Basin Management Unit) to align with core use areas (Tempel et al. 2016). The size varies along a latitudinal gradient because owl home ranges are smaller in the southern Sierra Nevada than in the northern and central Sierra Nevada (Gutiérrez et al. 2017). Territories are generally mapped as a circular core around an activity center regardless of current vegetation conditions and administrative boundaries. Territories may be adjusted on a case-by-case basis based on known owl location data or to include the most sustainable areas of high-quality habitat and exclude areas unlikely to support suitable habitat.

Home Range: The area used by an individual to meet its life history requirements. A home range typically includes all nesting, roosting, foraging, and territorial activities. CSOs establish large home ranges averaging 3,160 acres (Roberts 2017), though home range sizes are highly variable (1,500 to 5,400 acres), and estimates vary by study, latitude, elevation, diet, and individual (Forest Service 2019).



Habitat types and habitat treatment impacts

Nesting/roosting habitat: CSOs nest and roost in areas that are generally characterized as mature forest with multistoried or complex structure and that have larger/taller trees, higher canopy cover, and larger amounts of coarse woody debris (i.e., fallen dead trees and the remains of large branches on the ground) than other sites available for use within the territory. Important characteristics include but are not limited to large/tall trees (more than 24 inches QMD, but preferably more than 30 inches QMD), moderate to high canopy cover (typically 70% or higher for high canopy cover, may vary based on site conditions), multiple layers in the mid and upper canopies, and high habitat heterogeneity. Nesting habitat contains high canopy cover and trees with potential nest structures such as cavities, platforms, and deformities.

Foraging habitat: CSOs foraging habitat is composed of a diversity of vegetation types and seral stages (Roberts 2017). Foraging habitat may include the habitat characteristics described above for nesting/roosting habitat, but may also include younger forests, areas with medium-sized trees (11 to 24 inches QMD), and small open areas. A mosaic of mature closed-canopy forest intermixed with open-canopy patches may promote higher prey diversity and abundance (Franklin et al. 2000, Tempel et al. 2014, Ward et al. 1998, Zabel et al. 1995). Some studies suggest CSOs tend to select edge habitat for foraging (Eyes 2014, Eyes et al. 2017, Roberts 2017, Williams et al. 2011). Outside the nest stand, habitat heterogeneity appears important for prey populations and CSO foraging.

Dispersal habitat: Dispersal habitat is essential to maintaining stable populations by filling territorial vacancies when resident California spotted owls die or leave their territories, and to providing adequate gene flow across the range of the species. There is little information available about CSO dispersal and dispersal habitat. Dispersal habitat is described for northern spotted owl as 50 percent of the forest matrix outside of activity centers in stands with an average of 11 inches dbh and 40 percent canopy closure (Thomas et al. 1990). This contrasts with dispersal for Mexican spotted owls, which may move across large areas of unforested habitat to access suitable habitat on different mountain ranges (Gutiérrez et al. 1995, Gutiérrez et al. 2017). At a minimum, dispersal habitat for CSO, contains stands with adequate tree size and canopy closure to provide roosting opportunities, protection from avian predators, and at least minimal foraging opportunities.

Habitat downgraded (downgrade): Refers to situations in which vegetation treatments reduce habitat elements to the degree the habitat will not function in the capacity that exists pre-treatment, but the activities will not remove habitat entirely (i.e., changing nesting/roosting habitat to foraging habitat or foraging habitat to dispersal habitat).

Habitat maintained or habitat improved: Refers to activities that change forest stand characteristics but maintain or improve the components of spotted owl habitat within the stand such that the habitat continues to support or to promote spotted owls' life history requirements (i.e., the functionality of the habitat as nesting, roosting, foraging, or dispersal habitat remains intact post activity). For example, the habitat is maintained if an area that functioned as foraging habitat pre-treatment, still provides such function post-treatment, but perhaps is more limited due to a temporary reduction in prey base. For example, the habitat is improved if dense understory is

thinned to increase the overall QMD of the stand while retaining multistory canopy important to nesting/roosting habitat.

Habitat removed: Represents a complete loss of habitat function following a treatment (i.e., an area that functioned as nesting/roosting, foraging, or dispersal habitat for California spotted owls before the treatment, no longer provides any habitat function for California spotted owls post-treatment). For example, an area that previously functioned as suitable habitat but no longer contains habitat features that would support owl life history activities.

Mechanical treatment: Machine-based fuels reduction and tree harvest (for example, use of ground-based heavy equipment such as feller-bunchers and skidders or aerial-based systems such as cable yarding systems or helicopter). Excludes hand thinning with chainsaws.

Quadratic mean diameter (QMD): A measure of central tendency or measure of average tree diameter in a stand, which is considered more appropriate than arithmetic mean for characterizing the group of trees which have been measured.

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