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.[1]

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 <u>every</u> project that pursues an amendment for treatments in CSO habitat. **Required with Choice** amendment components are necessary for <u>every</u> project, however the line

[1] This document and the guidance within it are solely for internal agency management. The guidance does not have the force and effect of law and is not enforceable by third parties.

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 firesheds. 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	(*If you have a fast dog)* The brown dog chases the slower red fox.
Reference	Adapted to correct the nonexistence of the species Brown Fox (*Vulpes apsens)* to a common Red Fox (*Vulpes vulpes)*, 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.

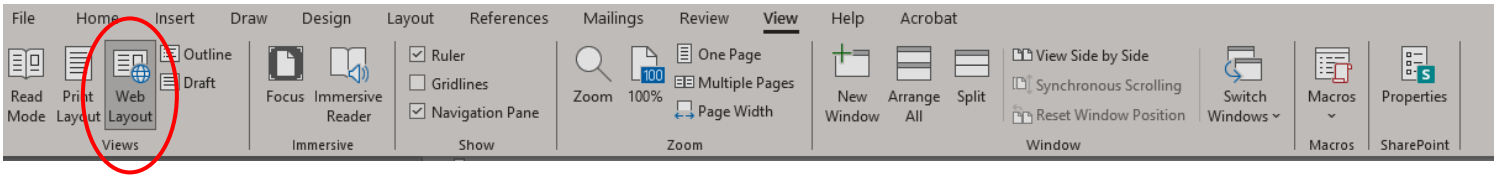

Figure 1. Location of Web Layout in Microsoft Word.

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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.[2]

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	**HQNR**[1] 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. *Operationally, using CWHR classes 6, 5D, and 5M when designing projects is acceptable.*

[2]The biological terms, definitions, and guidance in the plan amendment components are solely applicable to CSO habitat management; they should not be applied in other contexts without approval from the Regional Office.

Best Available Nesting, Roosting, and Foraging Habitat	**BANRF** habitat	**BANRF**[2] 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. *Operationally, using stands with CWHR classes 4D and 4M when designing projects is acceptable.*
Suitable habitat	*No special designation*	Suitable habitat for CSO includes both **HQNR** and **BANRF** habitat. Stands outside of these designations are classified as unsuitable. *Operationally, this includes CWHR classes 6, 5D, 5M, 4D, and 4M.*
Maintain habitat	**maintain**	Maintaining a habitat type will keep its habitat classification in **HQNR** and **BANRF**. Treatments may still occur, but they cannot result with the stand **downgrading** to a lower habitat type or being **removed** from suitable habitat (i.e. **HQNR → HQNR**, **BANRF → BANRF**). *Operationally for **HQNR**, CWHR classes 6, 5D, and 5M → 6, 5D, and 5M.* *Operationally for **BANRF**, CWHR classes 4D and 4M → 4D and 4M.*
Improve habitat	**improve**	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**. *Operationally for **BANRF**, CWHR classes 4D and 4M → 5D and 5M.*
Downgrade habitat	*Not used in components*	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 **removal**. *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.*
Remove habitat	*Not used in components*	Habitat removal occurs when suitable habitat loses its functionality for CSO nesting, roosting, foraging, or dispersal habitat post activity. *Operationally, **HQNR** or **BANRF** → unsuitable habitat.*

Retain	*No special designation*	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.

[1]Adapted 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).
[2]Adapted from the CSO Strategy Habitat Suitability and Quality (p. 22) and Approach 1: PACs 1.C and 4.C (p. 26 and 28, respectively).
[3]Adapted 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 to70 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. *Operationally, this desired condition would correspond with CWHR 6 and 5D.*
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 **maintain** or **improve** 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: ○ 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.
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	*If project treatment includes prescribed burning in PACs, include this language:* 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.

*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. *Contextually required for all projects that are adjacent to non-national forest lands that have known CSO nest sites:* 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, **maintain or improve** all **HQNR** and **BANRF** habitat wherever it exists throughout the territory. 2. When a territory contains 60 percent or more **HQNR** and **BANRF** habitat, retain[1] at least 60% suitable habitat. Treatments will promote heterogenous structure across the territory and prioritize **maintaining or improving 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), **maintain or improve** 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 types[1] and contains 60 percent or more **HQNR** and **BANRF** habitat, retain[2] at least 60% suitable habitat. Treatments will promote heterogenous structure across the territory and prioritize **maintaining or improving HQNR** habitat in drainages and north- or east-facing slopes. b. When a territory consists of a majority of moist habitat types[1] and contains less than 60 percent **HQNR** and **BANRF** habitat, **maintain or improve** 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 types[1] and contains 60% or more **HQNR** and **BANRF** habitat, retain[2] at least 50% suitable habitat. Treatments will promote heterogenous structure across the territory and prioritize **maintaining or improving HQNR** habitat in drainages and north- or east-facing slopes. d. When a territory consists of a majority of dry habitat types[1] and contains less than 60 percent **HQNR** and **BANRF** habitat, **maintain or improve** all **HQNR** habitat wherever it exists throughout the territory, and retain[2] 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 areas[3], or in territories that contain unavoidable placement of fuelbreaks, retain[2] at least **40 percent** of the territory (including the PAC) in suitable habitat. Treatments will promote heterogenous structure across the territory and prioritize **maintaining or improving 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).

[1]Moist 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 – **less likely for adverse effect.** 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	***S&G 27-31*** *pertain to old growth forest and are similar in intent – consider whether to add or replace them with amendment.* **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~~ o ~~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**. *Both have the same intent.*
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 **maintain** or **improve** 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.	

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.~~	*Contextually required for all projects that are adjacent to non-national forest lands that have known CSO nest sites:* 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 HRCA 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.~~	1. When a territory contains less than 60 percent **HQNR** and **BANRF** habitat, **maintain or improve** all **HQNR** and **BANRF** habitat wherever it exists throughout the territory. 2. When a territory contains 60 percent or more **HQNR** and **BANRF** habitat, retain[1] at least 60% suitable habitat. Treatments will promote heterogenous structure across the territory and prioritize **maintaining or improving 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	***[S&G 27-31** pertain to old growth forest and are similar in intent – consider whether to add or replace them with amendment.]* **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.	*[Do not remove]*	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 **maintain** or **improve** 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: • 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

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.~~	*Contextually required for all projects that are adjacent to non-national forest lands that have known CSO nest sites:* 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 HRCA 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.~~	1. 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. 2. If DC-TERR-01 has been met, a. When a territory consists of a majority of moist habitat types[1] and contains 60 percent or more **HQNR** and **BANRF** habitat, retain[2] at least 60% suitable habitat. Treatments will promote heterogenous	Territories

		• ~~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.~~	structure across the territory and prioritize **maintaining or improving HQNR** habitat in drainages and north- or east-facing slopes. b. When a territory consists of a majority of moist habitat types[1] and contains less than 60 percent **HQNR** and **BANRF** habitat, **maintain or improve** 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 types[1] and contains 60% or more **HQNR** and **BANRF** habitat, retain[2] at least 50% suitable habitat. Treatments will promote heterogenous structure across the territory and prioritize **maintaining or improving HQNR** habitat in drainages and north- or east-facing slopes. d. When a territory consists of a majority of dry habitat types[1] and contains less than 60 percent **HQNR** and **BANRF** habitat, **maintain or improve** all **HQNR** habitat wherever it exists throughout the territory, and retain[2] 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 areas[3], or in territories that contain unavoidable placement of fuelbreaks, retain[2] at least **40 percent** of the territory (including the PAC) in suitable habitat. Treatments will promote heterogenous structure across the territory and prioritize **maintaining or improving HQNR** habitat in drainages and north- or east-facing slopes.	
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	Territories

			wildlife species. Desired conditions for **large** tree density vary by vegetation type and site conditions.	
GDL-TERR-02	Add new guideline	*[None]*	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: 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: ○ 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	*[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	Project-wide

			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.	
GDL-PROJ-03	Add/modify guideline for old forest connectivity	***[S&G 27-31** pertain to old growth forest and are similar in intent – consider whether to add or replace them with amendment.]* **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

[1] Moist 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.

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 to70 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~~ ~~o 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**. *Both have the same intent.*	
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.

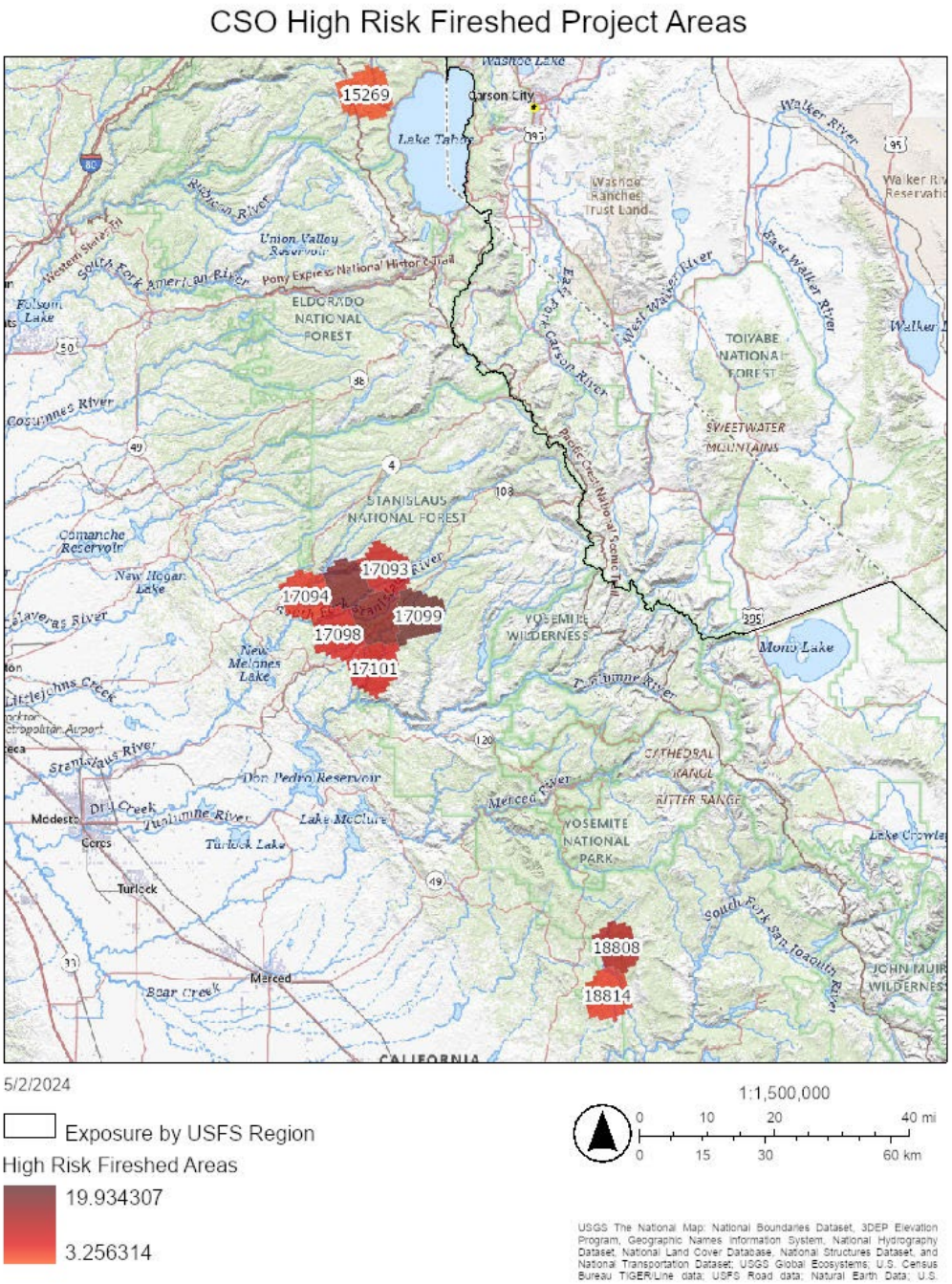

Table D1. Fireshed Registry Project Areas that may use alternate DC-TERR-1B.

Fireshed Name	Project Area ID[1]	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

[1]Fireshed 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, ABRREVIATIONS, 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 (*Strix occidentalis occidentalis)*
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 tress 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.