

Effectiveness Monitoring Committee

Initial Concept Proposal

Date Submitted: May 15, 2024

Project Title: Assessing California Spotted Owl occupancy and habitat suitability to fuels treatments in the Los Padres National Forest

Project #

Principal Investigator(s):

Kaitlyn Breana Hernandez, District Wildlife Biologist, Mount Pinos Ranger District, [REDACTED]

Phone Number: [REDACTED]

Applying Organization:

USDA, USFS, Los Padres National Forest

Collaborator(s):

Los Padres National Forest Assistant Wildlife Biologist and other District Wildlife Biologists

Cornell Lab of Ornithology

Critical Question Theme and Rules or Regulations Addressed:

- CQM Theme 7 Wildlife Habitat: Species and Nest Sites
 - Are the FPRSs and associated regulations effective for the spotted owl in maintaining adequate amounts of suitable habitat to protect and conserve owls?
- CQM Theme 8 Wildlife Habitat- Seral Stages
 - Are the FPRs and associated regulations effective in maintaining or increasing the amount and distribution of late succession forest stands for wildlife?
- FPRs
 - 14 CCR § 919.2 [939.2, 959.2]
 - 14 CCR § 912.9 [932.9, 952.9]

Project Duration:

Dec 2024- Summer 2026

Estimated Funds Requested for Project:

\$150,320

We are requesting funds for:

- Supplies: ~200 automated recording units, ARU water proof cases, SD cards, batteries- ~\$30,000 FY24/25

- research personnel: 1 temporary wildlife biologist assistant (8 months) and 2 research assistants (4 months) for two years- ~ \$60,160 (FY24/25) + \$60,160 (FY25/26)

Project supervision, grants and agreements processing, and write-ups of publications and reports will be in-kind.

Project Description:

Background and Justification

California spotted owls face a wide range of potential threats in southern California. These include unnatural fuel build-up, resulting from fire suppression, and consequent wildfire; fuels management activities such as thinning, mortality removal, and prescribed fire; hazard tree removal, water diversion and groundwater extraction; tree mortality due to forest pests and diseases; drought; air pollution; habitat fragmentation due to land ownership patterns; mining activities; and human disturbance related to special uses, roads, and recreation. However, wildfire is considered to be the primary risk factor to California spotted owl habitat and population persistence in Southern California.

Increasing rates stand replacing wildfires in Southern California has led to losses in California Spotted Owl habitat throughout National Forests in the region. Owl sites are threatened by the buildup of fuels and vegetative composition and structure changes that have occurred as a result of fire suppression and resulting high-intensity fires. Plans are being developed to greatly accelerate treatment of fuels in southern California and implementing the Wildfire Crisis Strategy was identified as a Los Padres NF Forest Priority for FY24. Furthermore, the existing southern California National Forest Land and Resource Management Plans directs the Forests to protect all California spotted owl territories. The California spotted owl is considered Sensitive by the USDA Forest Service, Pacific Southwest Region. It is listed as a Species of Special Concern by the state of California. The California spotted owl was proposed for listing under the federal Endangered Species Act and is currently being reviewed for listing.

Two major issues arise concerning vegetation treatments in and around spotted owl nest stands. One, is the uncertainty that exists regarding the trade-off between treating owl habitat with the goal of reducing its susceptibility to stand-replacing fire versus the potential negative effects of treatments on California spotted owl occupancy and habitat quality. The second issue regards the uncertainty about how different treatments or combinations of treatments would affect fire risk and severity within California spotted owl. Various guidelines and recommendations are in place to protect owl habitat from risk of high-severity fires. For example, prescribed burning has been recommended as an appropriate fuel reduction method in owl roosting and nesting habitat. While a combination of understory thinning and mechanical treatment of fuels prior to burning if needed has been recommended outside of Protective Activity Centers to insure that fire intensities remain within an acceptable range. However, owl responses to forest management practices has been variable and most of the research on California spotted owls has been conducted in the Sierra Nevada or San Bernardino areas. More

research is needed within Los Padres National Forest to make more accurate conclusions on impacts of fuels reduction management on owl presence and habitat suitability.

Objectives and Scope

The scope of this project focus is on the Los Padres National Forest where the current fuels projects are being implemented from 2024-2025:

- Frazier Mountain Project
- Pine Mountain Club Project
- Tecuya Ridge Shaded Fuelbreak
- Santa Barbara Mountain Community Defense Zone
- Camino Cielo Defensible Fuels Profile Zone
- Figueroa Mountain Project

These projects are being implemented in these areas to reduce the risk of stand-replacing high-severity wildfires to communities and ecosystems on the National Forest, which consists of a mosaic of public and private lands. This project will provide much needed data and information following the implementation of these management projects for consideration in adaptive management on the Los Padres National Forest.

The goal of this project is to assess the short-term effects of recent and soon to be implemented fuels reduction projects on California Spotted Owl habitat suitability and presence on the Los Padres National Forest. The objectives of this project are to:

- Establish monitoring stations for deployment of automated recording units to collect current California Spotted Owl presence data.
- Assess and quantify habitat suitability for California Spotted Owls in and around adjacent fuels projects sites.
- Identify untreated sites of similar habitat types for areas of suitable habitat to compare effects of management to.

Research Methods

The study area will consist of the mixed conifer and pinyon-juniper stands found within and adjacent to the LPNF fuels treatment areas. Treatment areas will be assessed for California Spotted Owl habitat suitability at selected sampling locations along points or transects following treatment. Data on canopy cover, canopy closure, tree density at breast height (DBH), live tree basal area, tree height, snag basal area, and downed woody debris will be collected for assessing and identifying potential suitable habitat throughout spotted owl survey periods in 2025-2026. Sampling locations in forest areas adjacent to the treatment areas will be selected at or near locations to previous owl occurrence data. Additionally, areas with similar habitat types to treatment areas and previous California Spotted Owl occurrences will be selected for assessing current habitat suitability at these locations. Sites will be categorized by habitat quality, distance to fuels projects, and quantity of suitable habitat to assess adequacy of available suitable habitat and to determine the management effects on maintaining or increasing seral stages of forest

stands for owls. California Spotted Owl presence/non-detection data will be collected via automated recording units, in alignment with other ongoing California Spotted Owl research efforts throughout the area. Data will be processed using Kaleidoscope or Raven and will be used in analysis for determining effects of fuels treatment on presence and distribution of California Spotted Owl, and effectiveness in maintaining adequate amounts of suitable habitat for owls. The sample size will be determined via statistical Power test and the most appropriate statistical analysis will be selected for data analysis.