

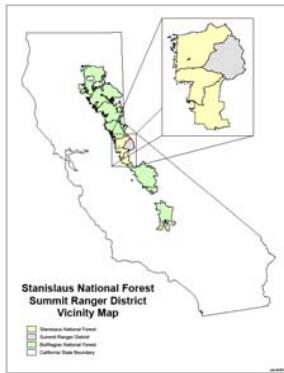
Territory status of California Spotted Owl (*Strix occidentalis occidentalis*) following fuel reduction treatments: management case studies from the Stanislaus National Forest



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Introduction

Catastrophic wildfire appears to be the greatest potential threat to the California Spotted Owl (*Strix occidentalis occidentalis*), and fuel reduction measures are likely to significantly reduce that threat (USFWS 2006). Despite implementing fuel reduction treatments on a vast landscape scale, the US Forest Service typically avoids conducting treatments within 121 ha California Spotted Owl territories known as protected activity centers (PACs). PAC entries are avoided because there is uncertainty regarding potential benefits and risks of mechanical treatments and prescribed fire treatments to the California Spotted Owl (USFS 2004). The few PACs that have been treated provide much needed information as management case studies.



Methods

I monitored California Spotted Owl territory status at three sites prior to and following fuel reduction treatments conducted within PACs. I used the standard Pacific Southwest Region US Forest Service protocol for monitoring owls to determine territory status (USFS 1993). California Spotted Owl protected activity centers (PACs) were delineated surrounding each territorial owl activity center (i.e. nest site) detected. PACs were delineated to encompass the best available 121 ha of habitat in compact a unit as possible using aerial photography and field verification (USFS 2004). Fuel reduction was accomplished by thinning understory trees with mechanical equipment and/or prescribed fire.



Results

California Spotted Owl territory status was monitored at three nest sites following fuel reduction treatments.

Site 1. Spring Gap

A thinning-from-below mechanical harvest was conducted within the owl nest stand and PAC.



Nest stand pre-treatment; view from nest tree.

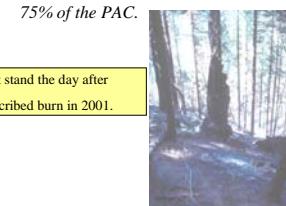


Nest stand 6 yrs post-treatment; view from nest tree.

Continued owl occupancy and successful reproduction was documented 2, 4, and 6 yrs post-treatment with pair occupancy in nonbreeding years.

Site 2. Hart Creek

An underburn was conducted across 75% of the PAC.



Nest stand the day after prescribed burn in 2001.

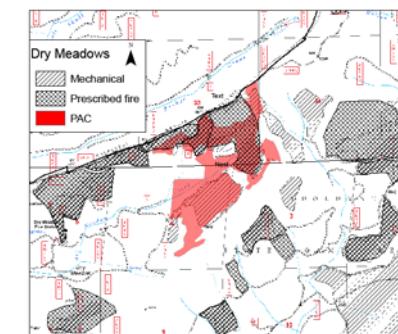


Hart male in 2003.

Continued owl occupancy and successful reproduction was documented at 1 yr and 2 yrs post-treatment.

Site 3. Dry Meadows

Mechanical harvest followed by underburning was conducted in the PAC outside of a 10 ha nest buffer area.



Thinning DBH limit: 69 cm (27 in)
Canopy cover reduction: 14%
Post-treatment canopy cover: 40%

Continued owl occupancy and successful reproduction was documented the year immediately following the treatments.

Discussion

These case study outcomes suggest that standard fuel reduction treatments may often be compatible with continued owl occupancy and successful reproduction. Fuel reduction treatments reduce the risk of stand-replacing wildfire that may render Spotted Owl habitat unsuitable for decades. I recommend that continued monitoring should be funded and that formal research studies should be conducted to further examine the short term and long term influences standard fuel reduction treatments have on California Spotted Owl and habitat.



Stand-replacing wildfire in untreated Spotted Owl habitat. Niagara Creek, 2007.



Fuel reduction treatments in owl habitat are often accomplished through logging. Leland Project, 2007.

Literature Cited

- USFS 1993. Protocol for surveying for Spotted Owls in proposed management activity areas and habitat conservation areas. March 12, 1991 (revised February 1993). US Forest Service, Pacific Southwest Region, Vallejo, CA.
- USFS 2004. Sierra Nevada Forest Plan Amendment Final Supplemental Environmental Impact Statement (FSEIS) and Record of Decision. Pacific Southwest Region, US Forest Service, Vallejo, CA.
- USFWS 2006. Twelve month finding for a petition to list the California Spotted Owl (*Strix occidentalis occidentalis*) as Threatened or Endangered. Federal Register 71(100):29886-29908. May 24, 2006. US Fish & Wildlife Service, Sacramento, CA.

Acknowledgements

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