

# Study shows diversity of habitat needed around spotted owl reserves

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A study just published this week shows many bird species, including several of high conservation concern, aren't getting the habitat they need due to a focus on promoting California Spotted Owl habitat in the northern Sierra Nevada.

The study, published in the science journal, *PLoS ONE*, tracked different bird species' use of areas inside and outside Spotted Owl reserves for two years in Plumas and Lassen National Forests. The results show 17 species avoided the reserves, including species of conservation concern like Yellow Warblers and Olive-sided Flycatchers, compared with only seven species preferring the [habitat](#) inside the reserves.

Federal land managers have set aside reserves, or core areas, covering 1000 acres each of relatively mature and dense [forest](#) around historical or existing Spotted Owl nest locations. Unlike their cousin, the Northern Spotted Owl, California Spotted Owls currently are not federally listed as endangered.

"There is an absolutely clear need to continue to protect old growth forests," said Ryan Burnett, Sierra Nevada Group Director for Point Blue Conservation Science and the study's lead author. "However, we're at a stage now where it's time to re-evaluate our sometimes singular focus on old-growth [forest management](#), and ensure we are balancing it with providing diverse forest habitats for the full range of species that rely on the Sierra ecosystem."

In the northern Sierra area of the study over 50 percent of the National Forest land base is designated to promote and protect mature, closed-canopy forest that supports less undergrowth, such as shrubs and grasses. Many bird species—and other wildlife—seek out undergrowth and the habitat provided in forest openings for food, shelter and nesting.

As part of the study, Burnett and colleagues monitored the bird community at 1,164 locations inside and outside Spotted Owl reserves. They found that they could conclusively determine the habitat preference for 24 [bird species](#) detected. Of those 24 species, 17 preferred habitat outside the reserves and only seven preferred habitat inside the reserves. Another 30 species were detected but it was unclear if those birds showed a preference or not.

"Our current forest management may be focusing too much on a handful of mature, dense forest-associated species at the expense of others, including several of high conservation concern," Burnett said. "The Sierra ecosystem evolved with disturbance, such as wildfire. It's important we manage the areas outside of the old growth reserves for the wide range of habitat types and conditions that support a substantial portion of the ecosystem's biological diversity, including early seral forest habitat."

According to Burnett, a combination of forest management actions could promote habitat for many other species outside the [reserves](#). An increased use of managed fire coupled with selective logging to thin overly dense forest stands can benefit many of the [species](#) that avoid mature, dense forest habitat and promote an ecosystem more aligned with current and future climate conditions.

**More information:** R.D. Burnett & L.J. Roberts. 2015. A quantitative evaluation of the conservation umbrella of spotted owl management areas in the Sierra Nevada. *PLoS ONE* 10(4): e0123778. [DOI:](#)

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