

Megafire does not deter Yosemite's spotted owls

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A California Spotted Owl. Credit: Jake Bourque.

In 2013 the Rim Fire—the largest fire on record in the Sierra Nevada—burned one third of the potential California Spotted Owl (*Strix occidentalis occidentalis*) habitat in Yosemite National Park. The park

provides prime habitat for this Spotted Owl subspecies, which is listed as a Species of Special Concern by the California Department of Fish and Wildlife, and concern grew regarding the fire's effect on Yosemite's owl populations. But recent research provides some good news regarding the park's owls, and it may be due to Yosemite's unique history and fire management strategy.

In a study published last week in the journal *Forest Ecology and Management*, researchers from The Institute for Bird Populations and Yosemite National Park found that Spotted Owl numbers and nesting rates remained stable in areas of the park that were burned by the Rim Fire. Between 2015 and 2017, the researchers surveyed for Spotted Owls, locating their territories and determining their breeding status. They used [satellite data](#) to characterize the [habitat](#) in the study area, including how severely it burned.

"What surprised me, primarily, was not that owls were still present, but they were still present in the same numbers and still successfully setting up territories and breeding," says the study's lead author Lynn Schofield, a biologist with The Institute for Bird Populations. While the owls avoided the most severely burned areas, they still held territories within the fire's perimeter.

California Spotted Owls can tolerate [forest](#) fire, but Schofield cautions that not all fires are created equal. Yosemite's forests have not been commercially logged since the early 1900s and fire suppression efforts since the 1970s have been kept to a minimum. This results in a forest structure and fire regime that is distinct from what is found outside of the park.

"In Yosemite there is a diversity of forest habitat," explains Schofield. "This means the Rim Fire burned with a diversity of severities creating a range of post-fire habitat for owls to choose from." The study notes that

in portions of the adjacent Stanislaus National Forest that were also burned by the Rim Fire, burn severity was more homogenous likely due to the contrasting logging and fire management regime on the National Forest.

The frequency of large, high intensity "megafires" like the Rim Fire is expected to increase in the Sierra Nevada. These megafires are considered one of the most important conservation threats to the California Spotted Owl. This study suggests that Yosemite's owl population has benefited from the park's diverse forest habitats and restored fire regime, and that these factors have allowed them to thrive even after a major disturbance like the Rim Fire.

"At Yosemite, restoring [fire](#) to its natural role is one of our management priorities," says Sarah Stock, a wildlife ecologist at Yosemite and co-author of the study. "It's gratifying to see that this strategy is paying off for the park's wildlife."

More information: Lynn N. Schofield et al, Habitat selection by spotted owls after a megafire in Yosemite National park, *Forest Ecology and Management* (2020). [DOI: 10.1016/j.foreco.2020.118511](https://doi.org/10.1016/j.foreco.2020.118511)

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