

Article

Species Inventories Help Protect Bats and Owls at Devils Postpile National Monument

[Devils Postpile National Monument](#)

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At Devils Postpile National Monument (NM), a species inventory has helped park managers ensure that management actions designed to help preserve threatened bats and owls didn't end up harming them, instead.



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In 2023, land managers in the greater Reds Meadow Valley, which surrounds the monument, planned to do fuel treatments including selective fuels thinning and prescribed burning. The goal was to prevent severe fires that could harm wildlife—but it was also possible these treatments could remove trees that bats and owls might use for habitat.



*The scientific name for the California spotted owl is *Strix occidentalis occidentalis*, a threatened species.*

USFWS/Kuyper

Nature's Contributions

Devils Postpile NM sustains a wide community of nocturnal animals, including several bat and owl species. Both perform important ecosystem services: Bats control insect pests and prevent the spread of mosquito-borne illness by eating up to 100% of their body weight in insects each night. Owls are efficient predators of rodents and other small mammals. Of the 25 bat species present in California, 16 are considered threatened, largely due to loss of habitat. The California spotted owl has also experienced alarming declines from habitat loss, justifying its recent listing under the Endangered Species Act.

Before the forest-thinning projects proceeded, staff from the National Park Service's [Inventory & Monitoring Division](#) arranged for an inventory of bat species and the threatened California spotted owl to see if they were present in the park—and, if so, where. They also wanted to compare bat activity in areas with high, medium, and low disturbance from previous fires and trees falling from strong winds. This information would shed light on how disturbance could impact bats in the park, helping park managers better understand how they can support bats when planning fuel treatments.



The scientific name for a Pallid bat is Antrozous pallidus, a sensitive species.

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Revealing the Results

Acoustic recorders identified a total of 15 bat species, including two sensitive species: pallid bat (*Antrozous pallidus*) and fringed myotis (*Myotis thysanodes*). Three species of special concern were also identified: spotted bat (*Euderma maculatum*), western mastiff bat (*Eumops perotis californicus*), and western red bat (*Lasiurus blossevillii*). The researchers did not find strong evidence that the number of bat species or bat activity differed among the low, medium, and high disturbance areas. This could be, in part, because the scale of the study was small. However, results were consistent with other studies concluding that moderate disturbance levels are optimal for bats in Sierra Nevada forests. Active call surveys were used to inventory owls, which involved broadcasting owl vocalizations and documenting any corresponding responses. No California spotted owls were detected during the study.

Conserving Habitats

The prescribed fuels thinning and burning would introduce a moderate level of disturbance to the ecosystem. Results from this inventory suggest these management actions would not severely impact bats living in Devils Postpile National Monument. And given the likely minimal or nonexistent presence of California spotted owls in the forest, it is anticipated that the management actions will have negligible effects on these owls. Park staff said the inventory results “support the goals of the Inyo National Forest fuels treatments and prescribed fire – to generally open the forests to increase resilience to wildfire while retaining large diameter trees

for habitat.” With this knowledge, park managers better understand how to conserve habitat for these special night-roaming animals.

Want to learn more?

Visit the [final products](#) from this project, discover [more about bats](#), or check out the table below.

Table 1. Bat species identified in this inventory.

Common Name	Scientific Name
Yuma myotis bat	<i>Myotis yumanensis</i>
Little brown bat	<i>Myotis lucifugus</i>
Western long-eared bat	<i>Myotis evotis</i>
California myotis bat*	<i>Myotis californicus</i> *
Fringed myotis bat*	<i>Myotis thysanodes</i> *
Western small-footed myotis bat*	<i>Myotis ciliolabrum</i> *
Long-legged myotis bat	<i>Myotis volans</i>
Big brown bat	<i>Eptesicus fuscus</i>
Spotted bat	<i>Euderma maculatum</i>
Western mastiff bat	<i>Eumops perotis</i>
Silver-haired bat	<i>Lasionycteris noctivagans</i>
Hoary bat	<i>Lasiurus cinereus</i>
Western red bat*	<i>Lasiurus blossevillei</i> *
Mexican free-tailed bat	<i>Tadarida brasiliensis</i>
Pallid bat*	<i>Antrozous pallidus</i> *

* Species newly documented in the park

Information in this article was summarized from the sources below:

Blakey, R, M. Buhler, L. Young, B. Wilkerson, and R. B. Siegel. 2023. Inventory surveys for bats and California spotted owls at Devils Postpile National Monument: Final report. Natural Resource Report NPS/DEPO/NRR—2023/2575. National Park Service, Fort Collins, Colorado. <https://doi.org/10.36967/2300702>

Human-wildlife conflicts: Bats. California Department of Fish and Wildlife. (n.d.). <https://wildlife.ca.gov/HWC/Bats>