



MOUNT RUSHMORE NATIONAL MEMORIAL 2017 RESOURCE BRIEF



The tri-colored bat is a new detection for Mount Rushmore NMEM.

White-nose Syndrome

A rapidly expanding fungal disease called white-nose syndrome is spreading quickly, threatening bat populations in North America. First documented in a New York cave in 2006, this disease is associated with more than seven million bat deaths. It spreads from bat to bat and perhaps by humans who carry nearly invisible fungal spores on their shoes and clothing from one cave to another.

This disease has not yet been detected at Mount Rushmore NMEM. Bat monitoring helps us understand the spread of this devastating fungus. To learn more and see a map of white-nose syndrome in North America, go to www.nps.gov/articles/white-nose-syndrome-in-national-parks.htm.

Bat Acoustic Monitoring

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Overview

Mount Rushmore National Memorial (NMEM) is a 1,278-acre park in the center of the Black Hills in South Dakota established to protect the faces of four presidents carved on the mountainside. Granite outcroppings and the old growth ponderosa pine forest that surrounds the mountain may provide good bat roosting habitat. Any reduction in trees and dead snags may impact available bat roosting locations.

The Northern Great Plains Inventory & Monitoring Network monitors bats to detect long-term trends in bat populations at the park. Acoustic recorders detect the unique ultrasonic calls bats use for echolocation.

Highlights (2015-2017):

- Eleven species were confirmed present or probably present in the park.
- Silver-haired and hoary bats were detected most often. Next most recorded were big brown, eastern red, and little brown bats.
- A very small number of the acoustic recordings were likely made by the threatened northern long-eared bat.
- Preservation of the old growth ponderosa pine forest including dead snags will protect the bat community including the threatened northern long-eared bat.



An acoustic recording station near the old beaver pond that is now a marsh.

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Bat Species Detected at Mount Rushmore NMEM, 2015–2017

Common Name	Scientific Name	2015-2017 Status*	Previously detected?
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	Probably Present	No
Big brown bat	<i>Eptesicus fuscus</i>	Present	Yes
Eastern red bat	<i>Lasiurus borealis</i>	Present	No
Hoary bat**	<i>Lasiurus cinereus</i>	Present	No
Silver-haired bat**	<i>Lasionycteris noctivagans</i>	Present	Yes
Western small-footed myotis	<i>Myotis ciliolabrum</i>	Present	Yes
Little brown bat	<i>Myotis lucifugus</i>	Present	Yes
Northern long-eared bat	<i>Myotis septemtrionalis</i>	Probably Present	Yes
Fringed myotis	<i>Myotis thysanodes</i>	Probably Present	Yes
Long-legged myotis	<i>Myotis volans</i>	Present	Yes
Tri-colored bat	<i>Perimyotis subflavus</i>	Probably Present	No

*Status based on acoustic recording classifications using specialized software and researcher expertise.

**These species were recorded most often, 2015–2017.

Monitoring

Ten acoustic recording stations were established in 2015 at Mount Rushmore NMEM for long-term bat monitoring. A total of 44,796 bat call recordings across all survey nights from 2015–2017 were analyzed to identify bat species using specialized software. There was no significant difference in the number of calls between years, indicating a stable bat community.

Three of the 11 species recorded were new detections for the park: Eastern red, hoary, and tri-colored bats. The hoary bat, an open country flyer, was recorded most often in the open area around the visitor parking garages. The smaller and more maneuverable little brown bat was detected more often in forests.

The highest rate of detections occurred by the old beaver pond in Starling Basin; a diverse site surrounded by forest with dead snags

for roosting and a marsh where the beaver pond used to be that is probably still good for foraging. The clearing between the parking garages had the next highest rate of bat activity, perhaps because bats forage on the insects attracted to the lights and warm surfaces.

Mount Rushmore NMEM has a diverse bat community that likely depends on the old growth forests in the park. Large snags can provide quality roosting habitat and should be protected. Silver-haired bats, long-legged myotis, and the threatened northern long-eared bat are particularly reliant on high densities of snags.

We have not yet detected white-nose syndrome at Mount Rushmore NMEM. Continued monitoring—and park staff and visitor observations—will help us protect the rich bat communities that live and forage in the park.



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For More Information:

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The silver-haired bat was one of the most commonly identified species at Mount Rushmore NMEM during this study. A silver-haired bat call can be heard at <https://www.nps.gov/subjects/bats/silver-haired-bat.htm>.

Bat population monitoring conserves bat communities.

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