



NIOBRARA NATIONAL SCENIC RIVER 2017 RESOURCE BRIEF



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The tri-colored bat is a new detection for Niobrara NSR.

Bat Acoustic Monitoring

NPS

Overview

Niobrara National Scenic River (NSR) is located in northern Nebraska. Managed by multiple agencies and private landowners, this 29,101-acre park includes 76 miles of the winding river. Riparian and upland forests, bluffs, and surface waters in the park may provide good bat foraging and roosting habitat. Some bats eat thousands of mosquitoes each night making them important for insect control in the campgrounds along the river.

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):

- Eight species were confirmed present or probably present in the park.
- Big brown, silver-haired, and hoary bats were recorded more often than other species.
- The threatened northern long-eared bat is probably present at the park based on a small number of bat calls. Acoustic monitoring is good at identifying some species, but other closely-related species often sound alike so the software is less certain about their presence unless it detects a lot of calls.

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 Niobrara NSR. 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.



This bat acoustic monitoring station is on the bluffs above the Niobrara River in Fort Niobrara National Wildlife Refuge.

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Bat Species Detected at Niobrara NSR, 2015–2017

Common Name	Scientific Name	2014-2017 Status*	Previously detected?
Big brown bat	<i>Eptesicus fuscus</i>	Present	Yes
Eastern red bat	<i>Lasiurus borealis</i>	Present	Yes
Hoary bat	<i>Lasiurus cinereus</i>	Present	Yes**
Silver-haired bat	<i>Lasionycteris noctivagans</i>	Present	No
Western small-footed myotis	<i>Myotis ciliolabrum</i>	Present	Yes
Northern long-eared bat	<i>Myotis septentrionalis</i>	Probably Present	Yes
Evening bat	<i>Nycticeius humeralis</i>	Probably Present	No
Tri-colored bat	<i>Perimyotis subflavus</i>	Present	No

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

**Previously reported as probably present

Monitoring

Eight acoustic recording stations and two mobile survey routes were established in 2015 at Niobrara NSR. Several of the monitoring stations were on private land and Fort Niobrara National Wildlife Refuge, managed by U.S. Fish & Wildlife Service. We share results with these network partners. Specialized software was used to identify bat species from the 72,705 bat calls recorded at acoustic stations.

Three of the eight species detected were new to the park: silver-haired, evening, and tri-colored bats. Niobrara NSR lies at a crossroads between several major ecological communities and at the edges of several bat ranges. Two species commonly associated with eastern North America (evening and tri-colored bats) were determined to be probably present at the park, representing western range expansions.



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The threatened northern long-eared bat was detected by the acoustic software at Niobrara NSR in small numbers.

The software indicated that two western species, long-eared myotis (*Myotis evotis*) and long-legged myotis (*Myotis volans*), could be present, but the results were inconclusive. Further monitoring will help determine if these two species have expanded their ranges eastward to Niobrara NSR.

Bat abundance was not significantly different across years. Mobile surveys showed a difference in detections by habitat. Sections of road surveys along the Niobrara River and wooded draws had more bat detections than sections through the open-country prairie and croplands.

Thus far, we have not detected white-nose syndrome at Niobrara NSR. Continued monitoring—and park staff and visitor observations—will help us protect the rich bat communities that live and forage in the park.

For More Information:

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Bat population monitoring conserves bat communities.

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