



FORT UNION TRADING POST NATIONAL HISTORIC SITE 2017 RESOURCE BRIEF

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Big brown bats were one of the most common bats at Fort Union Trading Post NHS.

White-nose Syndrome

A rapidly expanding fungal disease called white-nose syndrome is spreading quickly, threatening bat populations in North America. This disease has been associated with more than seven million bat deaths in the last decade. 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 Fort Union Trading Post NHS. Bat monitoring helps us understand the spread of this devastating fungus. To learn more and see a map of white-nose syndrome in national parks, go to www.nps.gov/articles/white-nose-syndrome-in-national-parks.htm.

Bat Acoustic Monitoring

Overview

Fort Union Trading Post National Historic Site (NHS) is a 440-acre park that straddles the North Dakota/Montana border and conserves a historic fur-trading post. The Missouri River flows through the park and is lined by forested floodplain that provides habitat for bats. Bats can eat thousands of mosquitoes each night, making them important for insect control along the river and in the croplands that surround this park.

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):

- Nine species were confirmed present or probably present in the park.
- Big brown and silver-haired bats were the most commonly detected species; together they accounted for three quarters of the recordings.
- Little brown and hoary bats were the next most frequently recorded species.
- The highest rates of bat activity were near the fort structures and near the large cottonwood trees bordering a remote parking lot.



A bat acoustic monitoring station located near some large cottonwoods adjacent to a parking lot at Fort Union Trading Post NHS. This station detected the most leaf-roosting species.

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Bat Species Detected at Fort Union Trading Post NHS, 2015–2017

Common Name	Scientific Name	2015-2017 Status*	Previously detected?
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	No
Western small-footed myotis	<i>Myotis ciliolabrum</i>	Probably Present	Yes**
Long-eared myotis	<i>Myotis evotis</i>	Probably Present	No
Little brown bat	<i>Myotis lucifugus</i>	Present	Yes
Northern long-eared bat	<i>Myotis septentrionalis</i>	Probably Present	No
Long-legged myotis	<i>Myotis volans</i>	Present	Yes**

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

**Previously reported as probably present.

Monitoring

Four acoustic recording stations were established in 2015 at Fort Union Trading Post NHS for long-term bat monitoring: Three above the floodplain and one in the floodplain. A total of 47,095 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 the three years.

Five of the nine species detected were new to the park: Eastern red bat, hoary bat, silver-haired bat, northern long-eared bat, and long-eared myotis. Big brown bats, a species known to roost in buildings, were prevalent at the station near the fort structures. Little brown bats were detected most often near the maintenance area and may be roosting in the build-

ings there. Leaf roosting bats like the eastern red and silver-haired bats were more common near several large cottonwood trees bordering a parking lot.

Bat activity was moderate compared to other parks in the network and may be due to an absence of large old trees. Maintaining the forested Missouri River floodplain will be important for maintaining bat populations including the threatened northern long-eared bat.

Thus far, we have not found white-nose syndrome at Fort Union Trading Post NHS. Continued monitoring—and park staff and visitor observations—will help protect the rich bat communities that live and forage in the park.



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For More Information:

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Eastern red bat is a new detection for Fort Union Trading Post NHS (a mother and three babies are pictured here). The Eastern red bat call can be heard at <https://www.nps.gov/subjects/bats/eastern-red-bat.htm>.

Bat population monitoring to detect changes helps us conserve bat communities.

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Network Parks: Agate Fossil Beds NM • Badlands NP • Devils Tower NM • Fort Laramie NHS • Fort Union Trading Post NHS • Jewel Cave NM • Knife River Indian Villages NHS • Missouri NRR • Mount Rushmore NMEM • Niobrara NSR • Scotts Bluff NM • Theodore Roosevelt NP • Wind Cave NP