



White-nose syndrome in Bats

Frequently Asked Questions

What is white-nose syndrome?

More than one million hibernating bats have died in the Eastern United States. These bats have been found with a skin infection in the form of a white fungus on their muzzles and wings.

Evidence shows that this fungus, *Geomyces destructans*, is associated with white-nose syndrome and is moving westward. This *Geomyces* fungus thrives in the cold and humid conditions of caves and mines, which provide prime habitat for many bats species. Bats affected with WNS do not always have the characteristic white fungal growth, but they display abnormal behavior in and outside their hibernacula (places where bats hibernate).

Where has white-nose syndrome been observed?

White-nose syndrome was first documented in eastern New York during the winter of 2006- 2007. Since then, the fungus associated with WNS has spread westward into the Oklahoma panhandle.

White-nose syndrome has been found in New Hampshire, Vermont, Connecticut, Massachusetts, Pennsylvania, Virginia, West Virginia, Tennessee and Missouri, as well as in the provinces of Quebec and Ontario in Canada.

Are New Mexico bats at risk?

New Mexico has 28 species of bats. Of the 9 species of bats that have been afflicted in other states, 3 are found in New Mexico. Recently, the fungus associated with WNS was found on the Cave myotis



A little brown bat with white-nose syndrome.

Credit: USFWS

in western Oklahoma, 250 miles from the New Mexico border. With bat to bat, bat to cave and/or human transmission of the fungus into the cave environment, WNS could rapidly spread to New Mexico.

What are the signs of white-nose syndrome?

The skin infections caused by *G. destructans* may act as a chronic disturbance, causing bats to awake from hibernation. Each time a bat wakes up, it uses some of the fat reserves it has built up to survive over winter. If anything increases the frequency or duration of such arousals during winter, a bat's fat reserves can be depleted. With no insects available for the bat to eat, they will starve to death.

WNS may be associated with the following unusual bat behavior or characteristics:

- A white fungus, especially on the bat's nose, but also on the wings, ears or tail.

- Bats flying outside during the day in temperatures at or below freezing.
- Bats clustered near the entrance of their hibernacula.
- Dead or dying bats on the ground or on buildings, trees or other structures.

How is white-nose syndrome transmitted?

The U.S. Fish and Wildlife Service believes WNS is spread from bat to bat. However, it is also a strong possibility that the disease is transferred from cave to cave by humans carrying the fungus on their clothing, equipment or caving gear.

What is the effect of white-nose syndrome on bats?

Mortality rates of 90-100 percent have been documented at several hibernation sites in the eastern U.S. If the bat survives the winter with WNS, wing and body damage can be seen on the bat.

Little brown bats have been hit the hardest by the disease, but several federally-listed endangered species have also been affected. These include the Indiana bat and the gray bat.

Which bat species have been affected?

Tri-colored, little brown, northern long-eared, big brown, eastern small-footed and Indiana bats have all died from WNS. Recently, the endangered gray bat, cave myotis and the southeastern myotis tested positive for the fungus. Scars on a bat's wings may be evidence that they were infected with WNS during the winter.

Why should people care about bats?

Bats are an important part of our natural system. They are important plant pollinators and insect predators. Consuming over half their body weight in insects each night, bats in the U.S. eat thousands of tons of insects nightly! It is estimated that the one million bats killed by WNS would have eaten about 2.4 million pounds of insects in one year!

In addition, bat guano is used as an organic fertilizer. Guano is rich in nitrogen and phosphorus and contains beneficial fungi and bacteria, which provides plants with a natural fungicide to protect them from disease.

What if you find dead or dying bats or signs of white-nose syndrome?

Contact your state wildlife or federal land management agency. E-mail the FWS at WhiteNoseBats@fws.gov to report potential WNS observations. Photos, and any objects on the bat like a band or device with an antenna will help biologists identify the bats.

Use a gloved hand or plastic bag if you need to move a dead bat. Spray the bag and the area with disinfectant, and then wash your hands and any clothing that contacted the bat.

What do cavers need to know and do?

Cavers should comply with all cave closures and advisories. They should avoid caves and other areas containing hibernating bats to minimize disturbing them and follow the FWS suggested decontamination protocol of all caving equipment as outlined at www.fws.gov/WhiteNoseSyndrome/cavers.html. Local and national cave organizations have also posted further information on their web sites.

Does white-nose syndrome pose a risk to human health?

Thousands of people have visited affected caves and mines since WNS has been observed. There have been no reported

illnesses attributable to WNS, however researchers are still learning about the disease. Bats should not be handled or disturbed.

What can you do to help?

- Bats are in peril. To help them you can:
- Prevent the spread of WNS by obeying cave closures and advisories.
 - When visiting tourist caves, such as Bandera Ice Cave or Carlsbad Caverns, don't wear or carry any gear or clothing that has been in caves or mines in the eastern United States, Ontario or Quebec.
 - Report signs of WNS, unusual bat behavior or dead bats to your nearest land management agency.
 - Learn more about bats and help spread the word about WNS.

For more information on White-nose syndrome www.fws.gov/WhiteNoseSyndrome or contact



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