

WHITE NOSE BAT SYNDROME

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Obed Watershed Community Assn.

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The following was adopted from a press release from February 16, 2010 issued jointly by the Nature Conservancy, the Tennessee Department of Environment and Conservation (TDEC) and the Tennessee Wildlife Resources Agency (TWRA), prepared by Gina Hancock of the Nature Conservancy, Tisha Calabrese-Benton of the TDEC and Don King of TWRA.



Image: Bats exhibiting signs of white-nose syndrome. Photo by AL Hicks; New York State Department of Environmental Conservation. Via [U.S. Fish & Wildlife Service](#)

What is WNS?

White-nose syndrome is a disease that was first documented at four sites in eastern New York in the winter of 2006-07. Subsequently, photographs from February 2006 provided evidence of apparently affected bats at an additional site. WNS has rapidly spread to multiple sites throughout the northeast and by 2009, WNS had been found in 9 states: New Hampshire, Vermont, Massachusetts, Connecticut, New Jersey, Pennsylvania and in 2009, West Virginia and Virginia. With the discovery in Sullivan County in Tennessee, this brings the total to ten.

Researchers associate WNS with a newly identified fungus (*Geomyces destructans*) that thrives in the cold and humid conditions characteristic of caves and mines used by bats. Scientists are trying to determine the cause of WNS and its effects. Once a colony is affected, the fungus spreads rapidly and has killed at least 95 percent of bats at one New York hibernation site in two years. Other northeastern U.S. monitored bat colonies affected by WNS are experiencing similar large fatalities. There have been no reported human illnesses attributed to WNS and there is currently no evidence to suggest that WNS is harmful to humans or other organisms. However, we urge taking precautions and not exposing yourself unnecessarily to WNS. Biologists and researchers use protective clothing when entering caves or handling bats in the Northeast.

How does WNS kill bats?

Bats depend on fat reserves to survive their winter hibernation. It is believed that bats with WNS use up these fat stores faster. This causes the bats to fly out of caves during the winter in a desperate attempt to find food, but since the insects they eat are also seasonally dormant, the bats soon die of starvation.

Will this be the demise of bats in TN?

WNS will certainly have an impact on bat populations in Tennessee. Tennessee is home to 15 bat species. Not all are cave hibernating bats. Bats that have been affected in other states include Tri-colored, little brown, northern long-eared, big brown, small-footed and Indiana bats. Big brown bats are typically found in lower numbers in the affected sites, and few have been found with the signs of WNS. There is great concern, however, that we could lose the last stronghold of bats like the endangered Indiana and grays.

How quickly will this spread in TN?

We don't really know. Potentially, the fungus can be spread two ways. In December, the USGS released preliminary research results from a collaborative study funded by the U.S. Fish and Wildlife Service, the U.S. Geological Survey, the U.S. Forest Service, the National Speleological Society, and Symbiology, LLC, indicating that a genetic signature of *G. destructans* was present in sediments collected in WNS-infected hibernacula. However, the genetic signature has thus far not been detected in environmental samples or on bats collected from outside the known WNS-infected region. Identification of *G. destructans* genetic material in environmental samples suggests that the fungus is present, and the potential exists for fungus to be transmitted between bat hibernation caves as an unwanted hitch-hiker upon humans, their clothing, or caving gear.

Preliminary data from WNS infection studies conducted at the National Wildlife Health Center suggest *G. destructans* can be transmitted from bat-to-bat in a controlled environment. This finding, coupled with the recently confirmed first case of WNS this fall from a bat collected on November 4, 2009 in Virginia, suggests that WNS transmission may occur during the fall bat swarm, as well as during hibernation.

Why are bats important?

Bats provide a tremendous service to humans by consuming nighttime flying insects and keeping their populations under control. If we lose 500,000 bats, millions of insects that would have been consumed will still be flying around our neighborhoods, agricultural fields, and forests each night.

What is the state doing about WNS?

On July 1, 2009, the state of Tennessee issued a temporary cave closure for all caves on state-owned public land. The TWRA and the Tennessee Department of Environment and Conservation (TDEC) in partnership with The Nature Conservancy (INC), U.S. Fish and Wildlife Service (USFWS), Arnold Air Force Base (AAFB), Tennessee Valley Authority, National Park Service (NPS), U.S. Army Corps of Engineers (COE), and Austin Peay State University (APSU) developed a WNS response plan. Implementation of the plan began in the summer of 2009 and is ongoing.

What can the public do about WNS?

The USFWS and the state of Tennessee request that cavers observe all cave closures and advisories. Avoiding all caves, mines or passages will help slow the potential spread of WNS.

Unusual bat behavior can be reported to TWRA or the USFWS.

The TWRA has an office in Crossville - (800) 262-6704,
U.S. Fish and Wildlife Service Cookeville Field Office - (931) 528-6481

Should landowners restrict access to caves on their property?

We encourage private landowners to close access to caves on their property.