

### 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. 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.

**What is the history of WNS?** This affliction was first documented at four sites in eastern New York in the winter of 2006-07. Since, biologists have documented WNS in bat hibernacula in New Hampshire, Vermont, Massachusetts, Connecticut, New Jersey, Pennsylvania and in 2009, West Virginia and Virginia.

### Will this be the demise of bats in TN?

WNS will certainly have an impact on bat populations in Tennessee. Affected caves in other states have experienced mortality rates of up to 95% or possibly more within two years of documentation.

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

### 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 and essentially die of starvation.

### 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-affected 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.

### Is this a human health threat?

From FWS News release -Thousands of people have visited affected caves and mines since WNS was first observed, and there have been no reported illnesses attributable to WNS. We are still learning about WNS, but we know of no risk to humans from contact with WNS-affected bats. 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.

**Why are bats important?** Bats provide a tremendous service to humans by consuming night-time flying insects. Without bats, millions of insects that would have been consumed will still be flying around our neighborhoods, agricultural fields, and forests each night.

**What TN bats are threatened by WNS?**

Tennessee is home to 15 bat species. All are not 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

**To date, what TN bats have been affected by WNS?** Tennessee has had two bats confirmed as having the fungus, both being Tri-colored bats. The bats were collected from Worley's Cave in Sullivan County.

**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 (TNC), 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. Local and national cave groups have also posted information and cave advisories on their Web sites. Unusual bat behavior can be reported to TWRA or the USFWS.

**Who should the public contact/report WNS concerns?**

TWRA Offices are:

Region 1 (Jackson) — (800) 372-3928

Region 2 (Nashville) — (800) 624-7406

Region 3 (Crossville) — (800) 262-6704

Region 4 (Morristown) — (800) 332-0900

Central Office (Wildlife Division) — (615) 781-5262

U.S. Fish and Wildlife Service

Cookeville Field Office

(931) 528-6481

**Should landowners restrict access to caves on their property?** Because of the drastic mortality rates observed in bat caves in the Northeastern states and the fact that we have no evidence that those mortality rates will be less here, we encourage landowners to consider closing access to caves on their property.

**Are there any treatments for affected bats in a cave?** No, but research on the use of fungicides and other possible treatments is being conducted at this time.

Once bats in a cave have WNS, is the cave then considered WNS infected? **Yes.**