

# White-Nose Syndrome and North Carolina – an overview



## What is white-nose syndrome?

Hibernating bats in the northeastern United States are dying in record numbers, and we don't know why. This wildlife health crisis, white-nose syndrome (WNS), is named for the white fungus evident on the muzzles and wings of affected bats.

This affliction was first documented at four sites in eastern New York in the winter of 2006-07. WNS has rapidly spread to multiple sites throughout the northeast. Researchers associate WNS with a newly identified fungus (*Geomyces destructans*) that thrives in the cold and humid conditions characteristic of the caves and mines used by bats. The fungus could be responsible for the bat deaths, or it could be secondary to the cause.

Since being documented in New York, WNS has spread north and south, and has now been found in Southern Virginia near the North Carolina state line (see map on reverse). It's also getting perilously close to some of the most important bat habitat in the nation in Kentucky and Tennessee.

## How is it spread?

We believe WNS is transmitted primarily from bat to bat. There is a strong possibility that it may also be transmitted by humans inadvertently carrying the causative agent from cave to cave on their clothing and gear.

## What is its impact?

Hundreds of thousands of cave-dwelling bats of six species have died from WNS with no end in sight. Biologists have seen 90 to 100 percent mortality of bats at several caves in New York, Massachusetts, Connecticut and Vermont. However, there may be differences in mortality by site and by species within sites. The endangered Indiana bat hibernates in many of the affected sites and biologists are closely monitoring their populations during hibernation and, to the extent possible, in their summer maternity colonies. During the winter of 2008-2009, the biennial range-wide winter count of Indiana bats was conducted and early results from New York report significantly fewer bats. In addition to the Indiana bat, WNS has reached sites that contain the endangered Virginia big-eared bat. While no Virginia big-eared bats have exhibited signs of WNS yet, this species is being closely monitored. WNS also poses potential indirect impacts to humans as populations of insect pests may increase in response to the decreased predation from bats.



## Signs of possible WNS include:

- White fungus, especially on the bat's nose, but also on the wings, ears or tail
- Damaged wings, including holes in the wing tissue
- Bats flying outside during the day in temperatures at or below freezing
- Bats clustered near the entrance of hibernation sites
- Dead or dying bats on the ground or on buildings, trees or other structures.



## North Carolina bats

North Carolina is home to 17 species of bats, including three federally endangered species: the Indiana, gray, and Virginia big-eared bats. The North Carolina Wildlife Resources Commission has made significant strides in protecting the state's bats, including acquiring a conservation easement to protect an important mine for Virginia big-eared bats; placing metal gates on several mines to prevent people from disturbing bats during hibernation; and working with The Nature Conservancy to protect habitat. The gains made by these efforts could be eliminated with the arrival of WNS.

## What is being done?

In North Carolina, a cadre of bat biologists from a wide variety of agencies and institutions is continually being updated with the latest WNS information. State and federal biologists are in contact with local cave users and owners, including the Flittermouse Grotto organization of cavers, National Park Service, U.S. Forest Service, Grandfather Mountain, and Linville Caverns. The North Carolina Wildlife Resources Commission recently completed its WNS response plan in anticipation of the affliction's arrival, and is prepared to respond to reports of possible WNS cases. Additionally, the North Carolina Wildlife Resources Commission has long monitored state bat populations and will continue to do so, keeping an eye out for the arrival and possible impacts of WNS.

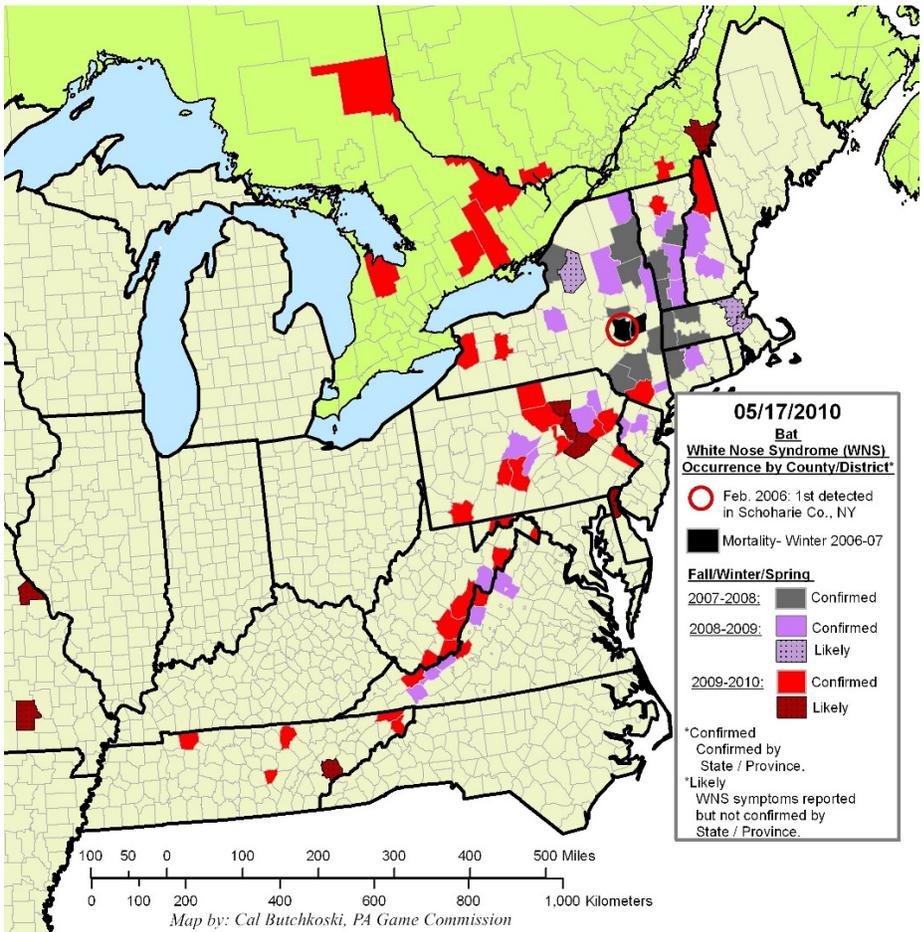
Nationally, an extensive network of state and federal agencies as well as universities, non-government organizations and caving groups is working to investigate the source, spread and cause of bat deaths associated with WNS and to develop management strategies to minimize WNS impacts. The overall WNS investigation has three primary focus areas: research, monitoring/management, and outreach. For example, biologists are conducting winter surveys to document and track affected sites, working with the caving community and local cave owners to target potential sites for surveys and protective measures, and securing funding to research and manage the spread of WNS.

## Where can I go for more information?

The U.S. Fish & Wildlife Service maintains a WNS website: [http://www.fws.gov/northeast/white\\_nose.html](http://www.fws.gov/northeast/white_nose.html), that includes the latest WNS news, information on cave closings, decontamination protocols, and information on what you can do to help.

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Photo credits: Nancy Heaslip and Ryan von Linden, New York Department of Environmental Conservation.  
Map courtesy Cal Butchkoski, Pennsylvania Game Commission



## What to do if you suspect WNS?

Contact the North Carolina Wildlife Resources Commission (Gabrielle Graeter [gabrielle.graeter@ncwildlife.org](mailto:gabrielle.graeter@ncwildlife.org), 828-273-9097) or the U.S. Fish & Wildlife Service (Susan Cameron, [susan\\_cameron@fws.gov](mailto:susan_cameron@fws.gov), 828-258-3939, ext 224). The U.S. Fish & Wildlife Service has also set up an e-mail address to accept reports from across the nation, [WhiteNoseBats@fws.gov](mailto:WhiteNoseBats@fws.gov).

- If possible, photograph the potentially affected bats (including close-up shots if possible) and send the photograph to one of the contacts above.
- If you need to dispose of a dead bat found on your property, pick it up with a plastic bag over your hand or use disposable gloves. Place both the bat and the bag into another plastic bag, spray with disinfectant, close the bag securely, and dispose of it with your garbage.
- Thoroughly wash your hands and any clothing that comes into contact with the bat.
- If you see a band on the wing or a small device with an antenna on the back of a bat (living or dead), contact the NC Wildlife Resources Commission or U.S. Fish & Wildlife Service at the numbers above.