

## What is White-Nose Syndrome?

White-Nose Syndrome (WNS) is a disease that has been killing bats in the eastern United States by the hundreds of thousands. Affected bats often have white fungus growing around their mouth, nose and ears- the “white nose” that gives the disease it’s name.

The earliest signs of WNS were seen in Howe Cave, NY, a very popular tourist attraction, in 2006 when a photograph was taken of a bat with a strange white fungus on its body. The disease was not recognized until a year later when hundreds of bats were found dead in four nearby caves.

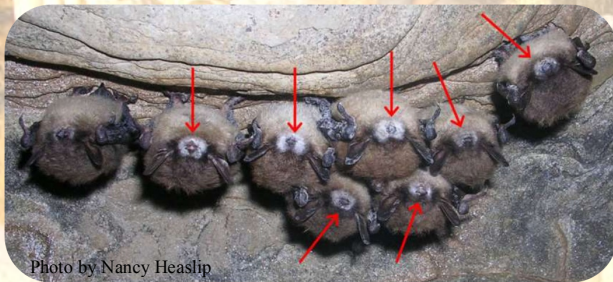


Photo by Nancy Heaslip

## What causes it and why do bats die from it?

Scientists are still uncertain what causes WNS, but the disease has been linked to a skin infection in bats caused by a cold-loving fungus called *Geomyces destructans*. The fungus appears to irritate infected bats, forcing them to become active when they should be hibernating in caves and mines. They often move to cold parts of their hibernacula, fly during the day and cold winter weather when their insect prey is not available, and use up the body fat they stored during the winter-long before spring arrives. Without their fat reserves, they soon starve or die of exposure.

## How does WNS spread?

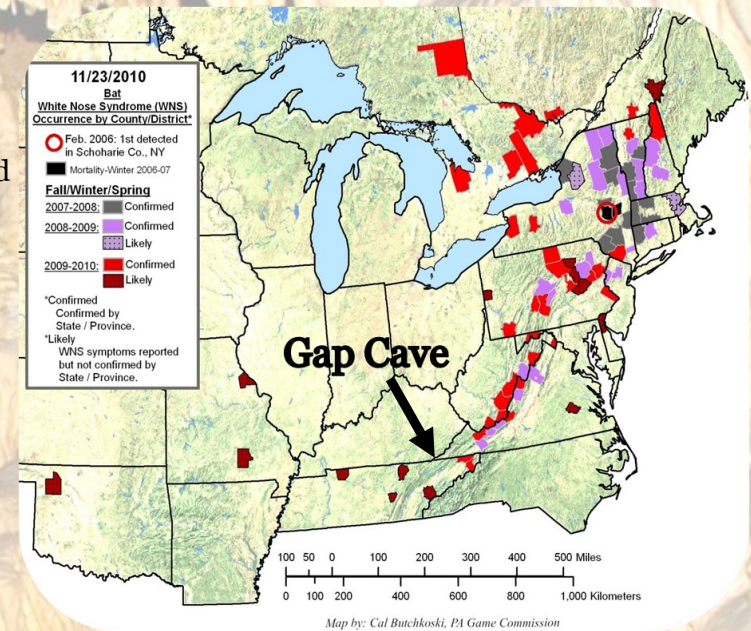
- **Bat-to-Bat**—This is thought to be the primary method of transmission for the fungus *G. destructans* - from one infected hibernacula to another. Bat-to-bat transmission has been proven in a laboratory environment.
- **Cave to Human to Bat**—While not proven, it is believed that humans can accidentally help spread WNS. Clothes, footwear, hats and other items that come into contact with the fungus can be carried to the next cave you visit. As a precaution, these items should be cleaned and disinfected before your next cave visit.

**WNS not only affects bats.  
It impacts our whole ecosystem.  
WNS affects us.**

## What’s at risk?

White-nose syndrome has been described as “the most precipitous wildlife decline in the past century in North America”. This disease has mainly affected and killed hundreds of thousands of hibernating little brown bats (*Myotis lucifugus*), northern long-eared bats (*M. septentrionalis*) and the federally endangered Indiana bats (*M. sodalis*) along the east coast. Mortality rates in WNS affected caves or mines are as high as 95 – 100 percent.

This disease is killing these species at such rapid rates that in the future the recovery of their populations will be extremely difficult to achieve. The life history adaptations of these three species show that they live life in the “slow lane.” With high survival rates, long lives (approx. 5-15 years) and low birth rates (one pup per year), recovery seems almost impossible. These common bat species today might become tomorrow’s newest additions to the endangered or extinct species listings.



WNS has spread from it’s epicenter (New York) to as far south as Tennessee, west to Oklahoma, and north to Canada.



Bat Biologist discovers dead bats outside a cave in Carbondale, PA

## What are the signs of WNS?

- Bats flying outside during the day in near freezing weather.
- Dead bats on the ground or on buildings, trees or other structures during the winter.
- Bats not arousing after being disturbed.
- Bats clustered near the entrance or other areas of the cave not normally used as winter roosts.

## Is WNS at Cumberland Gap?

As of January 2011, WNS has not been found at Cumberland Gap. As a precaution all employees, volunteers and visitors that have been in any cave or mine are required to follow our decontamination protocols before going on a cave tour. Also, at this time **Skylight Cave is closed** to all traffic. This closure is another WNS precaution.

### WNS Decontamination Protocols for Gap Cave Tours

Any item that has been in any cave or mine since 2005 needs to be decontaminated before going into Gap Cave. This includes:

**Clothes**— Must be washed and clean of any mud, dirt and debris. This includes hats and jackets.

**Shoes**— All mud and dirt must be removed before decontaminating them. Once clean, Formula 409 Anti-bacterial All-Purpose cleaner can be sprayed on the outside bottom and sides of the shoes. Let the formula 409 soak for approximately 10 minutes. Rinse with water.

**Jewelry, watches, flashlights, cell phones, cameras, etc.**— Please leave these items locked in your vehicle during the tour. Cameras can be decontaminated using Lysol disinfecting wipes.

**Backpacks**— Not allowed on the tour.

## Why do bats matter?

Bats are an essential, beneficial part of our ecosystem. The loss of our bat populations will have substantial ecological consequences that will even affect us. Bats provide a vital nutritional link between a cave ecosystem and the environment outside; often the base of the food chain. Bat guano supplies the only food source for cave-dwelling micro-organisms and invertebrates, which become a food source for fish, salamanders and other large animals.

Although many people misunderstand them, bats are something we *can't* do without. They are the only major predator of night flying insects. One bat can eat between 600 to 1,000 mosquitoes and other flying pests in just one hour! If bats disappear the insect population will boom, causing crop failure, economic damage and human illness.

## For More Information

These websites that provide an in-depth look at WNS across the country.

### US. Fish and Wildlife Service

<http://www.fws.gov/whitenosesyndrome/index.html>

### USGS National Wildlife Health Center

[http://www.nwhc.usgs.gov/disease\\_information/white-nose\\_syndrome/](http://www.nwhc.usgs.gov/disease_information/white-nose_syndrome/)

### Bat Conservation International

<http://www.batcon.org/index.php/what-we-do/white-nose-syndrome.html>



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## The Facts About White-Nose Syndrome