

- Affecting Caves in NY, CT, MA, VT, NJ, WV, and VA
- Several Hundred Thousand Bats Affected
- Affects Several Species Including the Endangered Indiana Bat
- Actual Cause of Death is Still Unknown
- You can Help Save the Bats!

Help Save the Bats!

The Indiana State University Center for North American Bat Research and Conservation is serving as facilitator for collecting funds to support White Nose Syndrome research.

Funds have already been allocated to the to the National Wildlife Health Center in Madison, WI (\$4,732 for a refrigeration unit). In addition, \$5,000 has been sent to the New York Department of Environmental Conservation to develop a counter that will automatically count bats as they emerge from caves and mines.

Anyone wishing to donate for this cause, please send check (payable to ISU Foundation/ Bat Center) to:

**CENTER FOR NORTH AMERICAN BAT
RESEARCH AND CONSERVATION
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White Nose Syndrome Information

Hundreds of Thousands of Bats are Dying from this Unknown Killer



White Nose Syndrome

What is White Nose

Syndrome (WNS)?

White Nose Syndrome was first documented on 16 February 2006, in Howes Cave, NY. In the winter of 2006-2007 Al Hicks of New York Department of Environmental Conservation found approximately 10,000 bats dying in four caves in New York. Many of the dead bats had a white fungus growing around their nose, so the ailment was termed White Nose Syndrome (WNS).

Identifying WNS

White Nose Syndrome can be identified by the much publicized white nose which is caused by a fungus. It is now known that several different fungi are involved, including one that grows at low temperatures occurring in northeastern caves. The fungus, however, is not limited to the nose and may be found on wing and tail membranes or in the fur.

Body weights (fat reserves) in affected bats are too low to carry them through hibernation. Therefore, many are waking up and flying outside, often hanging on buildings. Normally when a person enters a cave in winter, some of the bats wake and begin flying about. However, bats in WNS affected caves seem to have very little energy and show very little response.

Cause of Death

No virus, bacteria or other pathogen has been isolated as the cause of WNS and not all affected bats have white noses. Bats are dying because they do not have adequate fat to sustain them through the rest of the winter. The reason for this is currently unknown and is one of the most important questions currently being addressed.

Who, Where and What

Numbers

The little brown bat (*Myotis lucifugus*) and the Indiana bat (*Myotis sodalis*) appear to be the most heavily affected by WNS. However, a few northern bats (*Myotis septentrionalis*) and small-footed bats (*Myotis leibii*) have been found with WNS. These latter species are generally difficult to find during winter months because they hibernate in cracks and under rocks. WNS has also been documented in a few big brown bats (*Eptesicus fuscus*) and eastern pipistrelles (*Perimyotis subflavus*). All species occurring in caves in the area have been affected, but the greatest impact has been on those which form large clusters. Census data suggest that perhaps 500,000 bats may have died in NY, VT, MS and CT in 2008. WNS has been found in new areas this year including NJ, WV, and VA.

Research and Recovery Efforts

Al Hicks brought WNS to the attention of the research community and continues to lead the effort to determine the cause and control. Some caves in the northeast have been closed and protocols are being developed to help avoid contamination of new caves and new species. David Blehert at the National Wildlife Health Center in Madison, Wisconsin is investigating a fungus (*Geomyces* sp.) that grows only at low temperatures as a possible cause. Personnel from the ISU Bat Center (Justin Boyles, Virgil Brack) and Tom Kunz's lab from Boston College have been gathering information on weights and temperatures and identifying dead bats. Other ISU Bat Center personnel (Kathleen Dannelly, Angela Chamberlain, and John Whitaker) are investigating changes in chitinase producing bacteria as a possible factor. Specimens are being analyzed by pathologists, immunologists, virologists, and mycologists in labs at Cornell University, Columbia University, USGS, and elsewhere in hopes of identifying the cause. No cure is yet available, but Justin Boyles and Craig Willis have raised great interest with their suggestion that "hot spots" could be established in caves with the use of small heaters to serve as refuges where bats could roost during arousals which could potentially help conserve their energy.