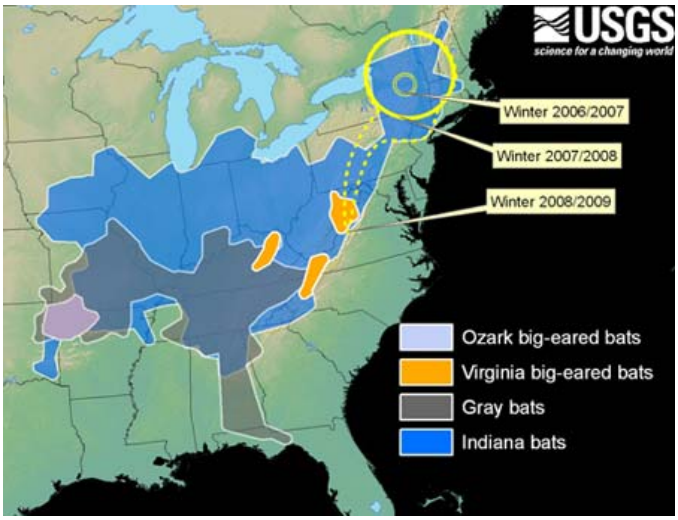
Help Us Slow the Spread of White-nose Syndrome

Information on why Emergency Cave and Mine Closures are Necessary

White-nose Syndrome (WNS) has killed nearly 1,000,000 bats during the last three years. In 2009 WNS spread south from New England into West Virginia and Virginia and now threatens to spread to the Midwest and Southeast, home to the federally endangered Indiana bat, gray bat, Ozark big-eared bat, and Virginia big-eared bat, as well as some of the largest bat populations in the United States. Over 90% of the wintering bats in some New England caves and mines have died because of WNS. Therefore, introduction of WNS into caves or mines where these four endangered bat species hibernate could potentially lead to their extinction.



Graphic courtesy of the U. S. Geological Survey
(http://www.fort.usgs.gov/WNS/

The term White-nose Syndrome was coined by biologists who observed a white fungus on the noses of affected bats. The fungus is new to science and may possibly be an invasive species. The best available science shows that this fungus thrives in the cold and wet conditions common to subterranean caves and abandoned mines.

Photo courtesy of Cynthia Sandeno, USFS

Bats affected with WNS do not always have the fungus, but may display abnormal behaviors such as flying outside in the winter or clustering near the entrance of caves or mines. Dead or dying bats may be found in caves or mines, or on the ground, on buildings, or on other surfaces.

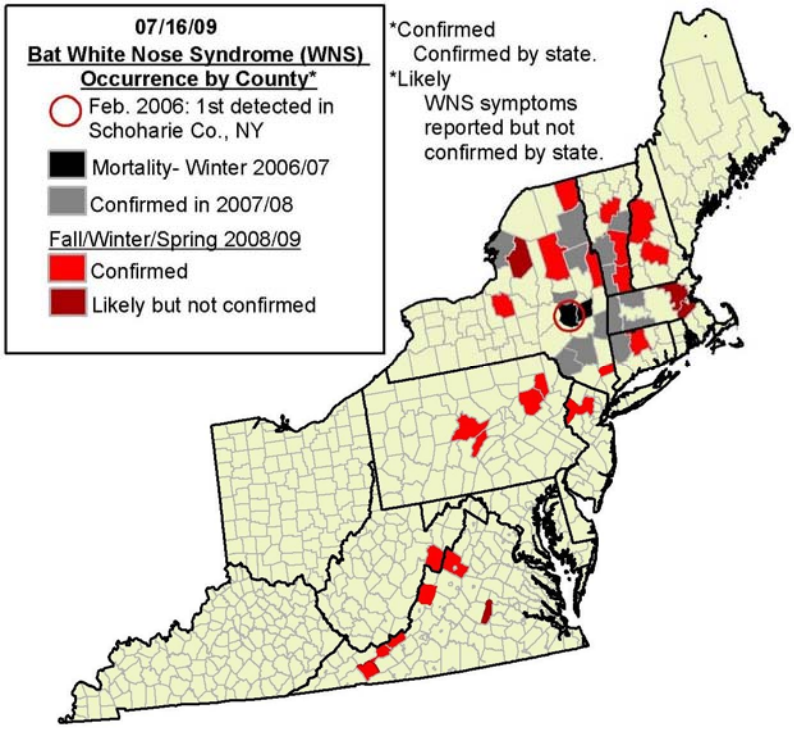
Photo courtesy of Cynthia Sandeno, USFS

Scientists do not know how WNS is transmitted, but there is strong evidence that it can be transmitted in three ways:

1. **Bat-to-bat Transmission** – Bats often congregate in groups in the winter hibernacula and come in contact with each other, providing the opportunity for many individuals to be exposed to the fungus.

2. **Bat-to-Cave/Mine Transmission** – Bats periodically wake up while in the cave or mine. They will groom themselves and scientists speculate that the fungus can be ingested and then excreted in the bat's guano onto the cave/mine floor.

3. **Human Transmission** - The fungus can grow on many different organic materials, and appears to persist in caves and mines year-round. Fungal spores, and/or other microscopic organisms, can easily become attached to skin, hair, clothing and equipment, and it is possible that such elements could remain alive for weeks or months after leaving an underground environment.



White-nose Syndrome was first observed in 2007 in the Albany, New York area. By 2009, it had "leap-frogged" its way to Virginia. Because infected caves and mines are located so far apart, scientists believe something other than bat-to-bat transmission is contributing to the spread of WNS.

For example, many of the newly infected caves in West Virginia and Virginia are popular destinations for recreational cavers. But, caves that are inaccessible to humans that are located near or between these infected caves remain unaffected by WNS.

Also, records of caver movements also reveal a connection between sites in these affected regions, additionally suggestive of a link to human activity.

Cave/Mine Closure Orders Issued

Federally endangered species are at risk from White-nose Syndrome. We cannot stop bat-to-bat or bat-to-cave/mine transmission, but we can prevent the human transmission of White-nose Syndrome to unaffected sites in the rest of the country.

The Forest Service issued a 1-year emergency closure order for all caves and mines on National Forest System lands in Forest Service Region 9. No one, except rescue personnel in the performance of their official duties, will be allowed within the closed areas unless authorized by the Regional Forester or Forest Supervisor. Violation of these prohibitions is punishable by a fine of not more than $5,000 for an individual or $10,000 for an organization or imprisonment for not more than six (6) months, or both, under authority of Title 16 U.S.C. 551, Title 18 U.S.C. 3559 and 3571.

Region 9 Contacts

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Links to Additional Information

The **U. S. Fish and Wildlife Service** maintains a web site with the latest information about White-nose Syndrome, including a list of all cave and mine closures across the United States: http://www.fws.gov/northeast/white_nose.html

The **National Speleological Society** maintains a website that contains media stories about White-nose Syndrome, cave/mine closures, and the U. S. Fish and Wildlife Service's decontamination protocol: http://www.caves.org/

Bat Conservation International, Inc. provides an array of educational information about bats on its web site: http://www.batcon.org/

The **U. S. Geological Survey** has a web site that details why White-nose Syndrome is a concern to bat diversity, including endangered bats: http://www.fort.usgs.gov/WNS/

The **National Wildlife Health Center's** website offers information related to the fungal pathogen tied to White-nose Syndrome: http://www.nwhc.usgs.gov/disease_information/white-nose_syndrome/index.jsp

More Pictures

Cluster of little brown bats, *Myotis lucifugus*, with white-nose syndrome, Breathing Cave, Bath County, Virginia. Photo courtesy of Wil Orndorff, Virginia Department of Conservation and Recreation.

Little brown bat, *Myotis lucifugus*, with white-nose syndrome, Clover Hollow Cave, Giles County, Virginia. Photo courtesy of Wil Orndorff, Virginia Department of Conservation and Recreation.

Little brown bat, *Myotis lucifugus*, with white fungus on tail, Breathing Cave, Bath County, Virginia. Photo courtesy of Wil Orndorff, Virginia Department of Conservation and Recreation.

Little brown bat, *Myotis lucifugus*, with white fungus on wings, Breathing Cave, Bath County, Virginia. Photo courtesy of Wil Orndorff, Virginia Department of Conservation and Recreation.

Dead Eastern pipistrelle, *Pipistrellus subflavus*, with white fungus on wings, Breathing Cave, Bath County, Virginia. Photo courtesy of Wil Orndorff, Virginia Department of Conservation and Recreation.