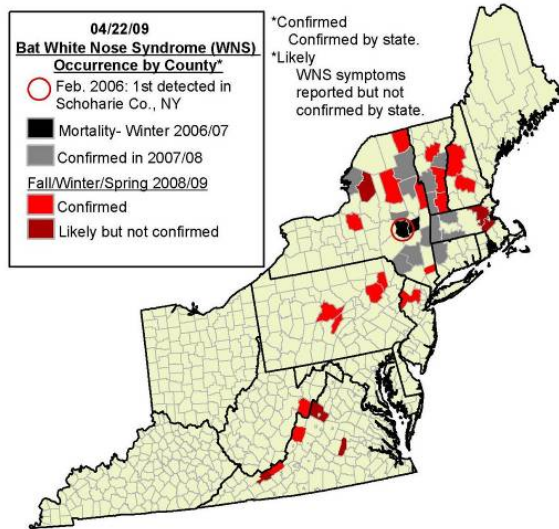


## The Spreading Infection

Bats with White Nose Syndrome have been found from Vermont to Virginia.



Map: Cal Buchkoski

## Taking Action

Scientists, wildlife officials, private and university laboratories, and non-profit organizations, including the National Speleological Society, have partnered to develop research strategies. Numerous field and laboratory projects are underway to discover the cause or causes of WNS, and determine how to fight it.

Caving organizations are helping these groups implement plans to help slow the spread of WNS until science can find a solution.

**People are asked to stay out of caves in certain states and regions, and to follow strict cleaning and decontamination procedures for clothing and equipment used in caves.** Please check with your state agencies or local NSS grotto for the status of caves and caving in your area.

## Bats Need Your help!

**Report unusual bat behavior** or bats that appear diseased to your state wildlife agency. Unusual behaviors may include daytime flight, especially during very cold weather. Report dead or dying bats you find on the ground, trees, or buildings.

**Donate to the National Speleological Society's WNS Rapid Response Fund.** You can provide timely and much-needed support for WNS research. Grants from the Fund support field and laboratory research on WNS, especially when other funding is not readily available.  
**Your support is critical!**

**Mail your check to:**  
NSS WNS Rapid Response Fund  
2813 Cave Ave.  
Huntsville, AL 35810-4431

**Donate securely online:**  
[caves.org/WNS/Rapid\\_Response.shtml](http://caves.org/WNS/Rapid_Response.shtml)

The NSS is a 501(c)3 non-profit organization. Donations are tax-deductible.

- **For more information on WNS:**  
[caves.org/WNS/](http://caves.org/WNS/)
- **Decontamination Procedures:**  
[fws.gov/northeast/whitenosemessage.html#containment](http://fws.gov/northeast/whitenosemessage.html#containment)



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# What is Killing Our Bats?

## The White Nose Syndrome Tragedy



Photo: Al Hicks

## White Nose Syndrome

Something is killing whole populations of bats in the eastern U.S. as they hibernate in caves and mines. Bats are losing their fat reserves (which are needed to survive hibernation) long before the winter is over and dying of starvation.

The cause is unknown, but the affliction has been given the name "**White Nose Syndrome**" (WNS) because of the telltale white fungus growing on the noses of infected bats. This fungus, a previously undescribed *Geomyces* species, may also appear on a bat's wings, ears, and tail.

However, bats affected with WNS do not always have the fungus growing on their bodies, and may instead display abnormal behavior.

Scientists do not know if the fungus is the sole cause of the bat deaths, or if it is merely an opportunistic pathogen, taking advantage of immune systems weakened by another biological or chemical agent.

The earliest evidence of WNS is in a 2006 photograph taken in Howe Caverns, New York, but the condition was not recognized until a year later. Since then, hundreds of thousands of bats have died.

## Bats Are Dying

Mortality rates of 70-100% have been documented in the first year in many hibernacula found to have WNS. In caves where fewer than 100% of the bats died the first year, populations continued to decline in successive years.

Damage to wings and bodies persists in bats that survive a winter in WNS-affected populations.

## Additional Signs of WNS

- Bats flying outside during the day in near freezing weather.
- Bats clustered in the winter in sections of caves or mines not normally used for winter roosts, especially near the entrance.
- Dead or dying bats on the ground or on buildings, trees or other structures during the winter.
- Bats not arousing at all after being disturbed.



## How WNS Is Spread

- **Bat to Bat** - Bat to bat transmission of the *Geomyces* fungus has been proven in the laboratory. The pattern in which WNS has spread between caves appears to support this.
- **Cave to Humans to Bats?** – The spread pattern also suggests that humans may transport WNS from infected sites to clean sites, probably on clothes and equipment that aren't cleaned and decontaminated between visits to caves.

## Bats Matter!

Bats are an essential, beneficial part of the ecosystem.

Bats play critical roles in insect control, plant pollination, seed dissemination and cave ecosystems, and provide food for other animals (hawks, owls, raccoons, skunks, and other animals prey on bats.)

Consuming over half their body weight in insects each night, bats reduce the need for insecticides and are the major predator of night-flying insects. *Bats in the U.S. eat thousands of tons of insects nightly.*

Bats play a significant role in science and medicine. Bat research has enabled advancements in sonar, vaccine development, blood coagulation, and artificial insemination, to name just a few.

Decimation of bat populations will cause a substantial ecological ripple effect, with far-reaching consequences.

**WNS doesn't only affect bats --  
it impacts our whole ecosystem.  
WNS affects us.**



Photo: Jonathan Reichard