

Bats Matter!

Bats are an essential, beneficial part of ecosystems. The loss of our bat populations could cause an ecological ripple effect with potentially far-reaching consequences.

Bats play critical roles in insect control, plant pollination, seed dissemination, and cave ecosystems. They are also food for other animals, including hawks, raccoons, skunks, and owls.



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Bat Conservation International

Bats and You

Consuming over half their body weight in insects each night, bats are primary predators of night-flying insects including many crop and forest pests. Bats in the U.S. eat thousands of tons of insects nightly. A recent study concluded that **losing our bats could result in billions of dollars in increased pesticide costs and agricultural damages each year!**

The droppings of cave-roosting bats provide vital nutrients for cave ecosystems and are often the basis of a cave's food chain. This guano is used by microorganisms and invertebrates, which become food for fish, salamanders, frogs, and other larger animals.

Bats also play a significant role in science and medicine. Research conducted on bats has led to advancements in sonar, vaccine development, blood anti-coagulation, and more.

**WNS not only affects bats,
it impacts entire ecosystems.**

Research is Critical

Scientists around the world are urgently studying WNS. Many field and laboratory projects are underway as scientists try to discover how WNS is killing our bats, what we can do to fight it, and how to protect surviving bats.

Your Help is Needed!

- Stay out of caves and mines where bats are hibernating.
- Honor cave closures. Check with your state and federal agencies or a local chapter of the National Speleological Society for the status of caves and caving in your area.
- Follow the National WNS Decontamination Protocol to clean and disinfect clothes, footwear, and equipment used in caves or mines.
- Report bats showing signs of WNS, and bats that are dead, dying, or appear diseased, to your state wildlife agency.
- Help spread the word about WNS and the value of our bats.

More Information

For more information on WNS, including decontamination procedures, visit the national response website:
www.WhiteNoseSyndrome.org



For more information on bats and caves, visit:

- Bat Conservation International: www.batcon.org
- National Speleological Society: www.caves.org
- BatsLIVE: <http://batslive.pwnet.org>

This brochure was produced in partnership by:



Battle for Bats

The WNS Tragedy



White-Nose Syndrome (WNS)

has caused catastrophic declines in hibernating bats in the United States and Canada. This previously unknown disease has spread very quickly among bats since it was first discovered in 2007 and it poses a considerable threat to millions of bats and entire ecosystems.

White-Nose Syndrome

A new disease is decimating entire populations of bats in the U.S. and Canada as they hibernate in caves and mines. Affected bats may spend more time being active and flying during hibernation, causing them to use up the fat reserves they rely on to survive the winter. Scientists estimate that over **5.7 million** bats have already died.

White-nose syndrome (WNS) has spread rapidly. The earliest evidence of WNS came from a photograph taken in 2006 in a cave in New York. As of June 2013, bats with WNS have been found in over 22 states and five Canadian provinces as the disease continues to spread in all directions across the landscape.

Scientists believe WNS has caused the most dramatic decline of North American wildlife in over 100 years, with potentially dire environmental consequences. It threatens ecosystems both in caves and above ground, and presents new challenges for conserving fragile cave environments.



Alarming Death Rate

The impact of WNS is frightening! Up to 99% of bats in some WNS-infected populations die within a few years. Little brown bats, once the most common bat in the northeastern U.S., may be in danger of regional extinction within the next 15 years.

More than half of the 47 species of bats that live in the U.S. hibernate in caves and mines to survive the winter. Four of these bats are federally endangered (Indiana, gray, Virginia and Ozark big-eared bats) and live within or near WNS-affected areas.

Other Signs

The white powdery fungus is not always visible on affected bats. Sometimes bats with WNS simply display unusual behavior such as flying outside during the day in near-freezing weather. This quickly uses up their fat reserves at a time when insects are not available for food. As a result, in winter you may see dead or dying bats on the ground or in buildings or other structures. If you encounter a bat, do not handle it!

How WNS is Spread

Bat-to-Bat: The fungus that causes WNS is believed to be transmitted primarily from bat to bat and bat to cave.

Soil-to-Bat: *P. destructans* can survive in the soil of caves and mines where bats hibernate. Healthy bats entering previously infected sites may contract WNS from the environment.

Other Means: Scientists have demonstrated that it may be possible for humans to inadvertently carry *P. destructans* spores on their clothing or equipment.

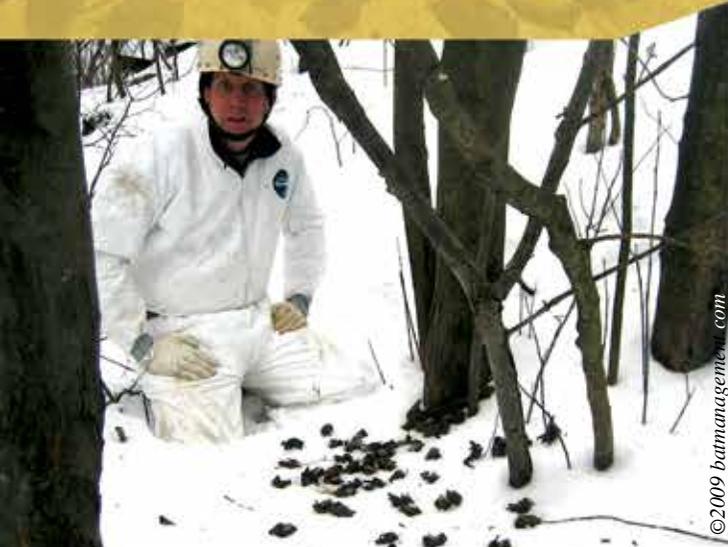
If WNS continues to spread to new areas, we face the real possibility of losing entire bat species.

The Cause of WNS

This disease was named “white-nose syndrome” because of the telltale white fuzzy growth on the nose, ears, and wings of affected bats. Scientists identified a previously unknown species of cold-loving fungus, *Pseudogymnoascus destructans* (previously *Geomyces destructans*), as the cause of the skin infection. *P. destructans* thrives in low temperatures (40–55° F) and high humidity – conditions commonly found in caves and mines where bats hibernate.

While evidence supports that *P. destructans* causes the disease white-nose syndrome, the exact process that leads to death is unknown. Scientists are working to determine if there are conditions that increase a bat’s susceptibility to WNS and/or death.

To reduce the possibility of transmitting WNS, please honor cave closures. As a precaution, clothing, footwear, and gear used in a WNS-affected site should be decontaminated according to the National WNS Decontamination Protocol (available at www.whitenosesyndrome.org/topics/decontamination). **Cave visitors should never take clothing or gear used in a WNS-affected area to a site that is not WNS-affected.**



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