U.S. Fish & Wildlife Service

Human Spread of White-Nose Syndrome: Why Decontamination is Important

Bat-to-bat transmission is believed to be the primary vector for the spread of the fungus *Geomyces destructans,* the likely cause of white-nose syndrome (WNS). WNS is a disease that is killing significant numbers of hibernating bats in eastern North America.

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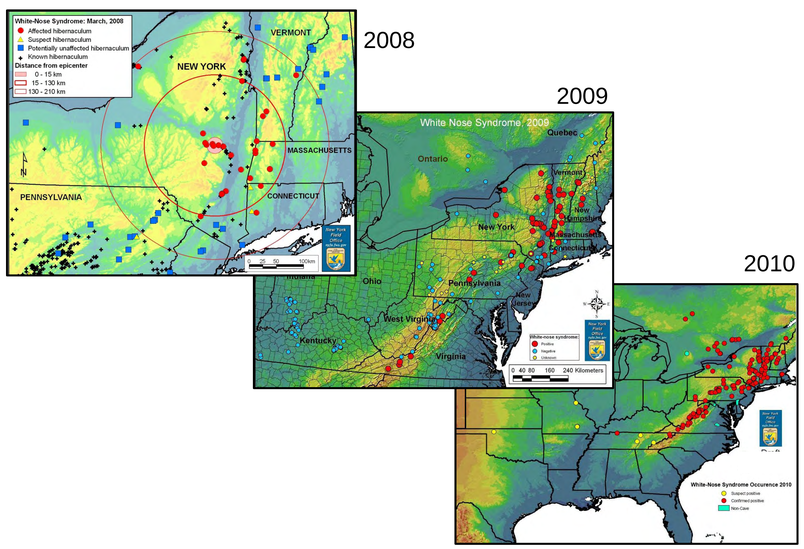
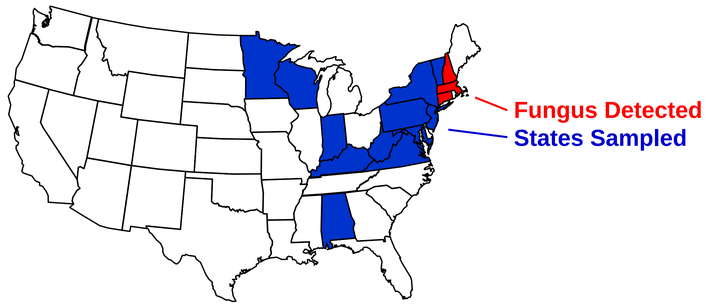
Photo by: Brendan Marks, http://www.flickr.com/photos/18120792@N04/887549561/

Human-assisted transmission of WNS does not appear to be a frequent event. There have been suspicious jumps, however, of longer distances than the bats are likely to transmit the disease themselves. Jump sites have also been frequently visited locations, often with small bat populations relative to others in the area.

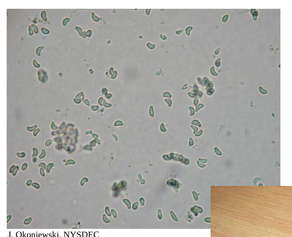


Research is underway to improve our understanding of WNS transmission, including the human element, and results of pilot studies are becoming available:

The U.S. Geological Survey, National Wildlife Health Center has detected fungal spores in cave sediment demonstrating persistence of fungus in the absence of bats (1).



The New York State Department of Environmental Conservation, (NYSDEC) Wildlife Pathology Unit has isolated fungal spores on equipment and clothing after exiting a cave (2).



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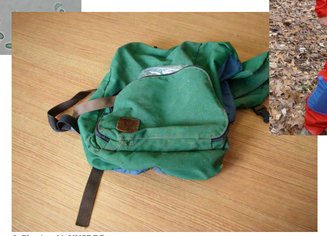

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A joint-agency project has also demonstrated that bats can develop WNS through infection directly from an affected cave environment, and in the absence of infected bats (3).

Evidence suggests that WNS may be caused by an invasive fungus, probably from Europe.

Human assisted spread of diseases and invasive species in the U.S. has unfortunately been occurring more frequently over the past several decades.

Similarities can be drawn between the spread of WNS and other disease and invasive species known to be spread by humans:

- Viral Hemorrhagic Septicemia
- Amphibian Chytrid Fungus
- Amphibian Ranavirus
- Zebra Mussels
- Hemlock Woolley Adelgid
- Asian Longhorn Beetle
- Emerald Ash Borer
- Purple Loosestrife

What can you do to help prevent the spread of WNS?

- Treat WNS as you would an invasive species
- Avoid any contact with potentially affected sites, equipment, or bats themselves
- Employ good stewardship practices such as cleaning and disinfecting your gear

Why is decontamination important?

- Reduces the potential for big jumps across the continent
- Slows the spread of disease
- Prevents the arrival/spread of other potential exotic invaders in the future

Citations:

1. U.S. Geological Survey, National Wildlife Health Center Wildlife Health Bulletin 2009-03.
2. Okoniewski, J. *et al*. May 2010. Detection of the Conidia of *Geomyces destructans* on Bats in Northeast Hibernacula, at Maternity Colonies, and on Gear. 2010 WNS Symposium, Pittsburgh, PA.
3. Hicks, A. *et al*. May 2010. Investigations in to the Environmental Transmission of WNS to hibernating *Myotis lucifigus*. 2010 WNS Symposium, Pittsburgh, PA.

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