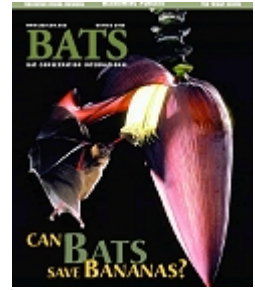


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WNS: The threat grows
Robert Locke

Four winters after its discovery near Albany, New York, White-nose Syndrome “a still-mysterious but deadly threat to American bats” has spread across New Jersey and Pennsylvania and into West Virginia.



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"We just have a very helpless feeling. Right now, there's really nothing that's recommended to help these bats," says Mick Valent, principal zoologist for the New Jersey Division of Fish and Wildlife.

West Virginia now reports WNS at multiple caves. Assuming this is confirmed, said BCI Founder Merlin Tuttle, "America's most important remaining hibernacula for endangered Indiana myotis (*Myotis sodalis*) and gray myotis (*M. grisescens*) could be threatened within two years or less. Failure to find a solution could prove devastating."

White-nose Syndrome, with mortality rates exceeding 90 percent at some hibernation sites, has killed hundreds of thousands of hibernating bats in the northeastern United States. Scientists do not know the cause, although researchers are trying desperately to solve this lethal puzzle. BCI's WNS Emergency Response Fund has provided more than \$65,000 so far to help finance 10 vital research projects.

The WNS fund supports investigations into the most urgent research questions as determined by a June 2008 Science Strategy Session of top WNS scientists and government officials. BCI worked with Boston University, Cornell University College of Veterinary Medicine, the New York Department of Environmental Conservation, the U.S. Geological Survey and the U.S. Fish and Wildlife Service to organize that critical meeting and also led fundraising for meeting facilitation and scientist travel. The meeting report is available online at BCI's website (www.batcon.org).

A white fungus is found on the faces of many affected bats. The fungus has been identified, but it remains unclear whether it is a cause of the ailment or one of its symptoms.

Alan Hicks of the New York Department of Environmental Conservation, whose team originally discovered the syndrome, said the way WNS is spreading strongly suggests a disease-causing organism of some kind, possibly the fungus. He said "transmission tests" are being conducted at the USGS National Wildlife Health Center in Wisconsin that should answer that question, "provided they are able to sufficiently match conditions in these caves. We expect those results in the next month or so." BCI is helping to fund to that critical study.

WNS was first seen in a single New York cave in the winter of 2005-06 and was found in four additional nearby sites the following winter. By 2007-08, it had spread throughout the state and into Vermont, Massachusetts and Connecticut. Now it has spread much farther.

Valent reports at least hundreds of confirmed bat deaths at three abandoned mines, located a few miles apart in eastern New Jersey. Among them is the state's largest hibernation site

â€“ Hibernia Cave, where BCI helped build a bat-friendly gate in 1994. Some 30,000 bats, mostly little brown myotis (*Myotis lucifugus*) but also some Indiana myotis, now hibernate there.

"We're seeing all the things that seem to define WNS: some bats with the white fungus on their muzzles, bats leaving the mine that are emaciated and dehydrated, bats flying out during daylight [in the midst of their hibernation season]. We are also seeing clusters of bats very near the entrance, the coldest part of the mine where ice is forming; we normally don't see them there." Dead bats from the mine tested positive for the fungus that's associated with WNS, he said.

No bat kills were confirmed in PennÂsylvania, but the state Game Commission notes that biologists DeeAnn Reeder of Bucknell University and Greg Turner of the commission found bats with fungus-covered faces in an old iron mine in Mifflin County. When they netted bats at the site last summer, they found no obvious problems, although some bats had white spots on their wings. "What the white spots represent is still unclear," Turner said, "but researchers believe they may be early signs of WNS."

In mid-December, the hibernating bats at the mine revealed no problems. But on December 20, some bats showed the fungus and a few had moved closer to the mine entrance, an abnormal shift during hibernation and a "red flag" for the biologists. By January 5, about 45 percent of the hibernating population had relocated toward the entrance. Something obviously is going astray at the mine, but exactly what that might be is not yet clear.

One of the top WNS researchers, Tom Kunz of Boston University, said he was not surprised the syndrome has expanded, but added: "We really don't know what is causing the spread at this point." He said researchers are sampling caves and mines across a broad area to determine whether the fungus can be present without the dire symptoms of WNS. "If it's everywhere (across the landscape), that would suggest that the fungus is not what's spreading, but that something else is" carrying the syndrome and its bat fatalities into new regions. That answer must be found.

White-nose Syndrome poses the worst documented threat ever faced by North American bats and we still have many, many questions and very few answers. Only targeted research can provide those answers. BCI's WNS Emergency Response Fund is making a big difference in helping to support that research, but our funds are nearly depleted. Without your immediate help, our WNS grants may soon cease. Please donate now at www.batcon.org/wnsdonate.

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