

## Release #049-08

### WHITE NOSE SYNDROME: IS PENNSYLVANIA NEXT?

*Agency biologists will play key role in national effort probing for answers.*

By Joe Kosack, Wildlife Conservation Education Specialist  
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HARRISBURG - The Pennsylvania Game Commission has found itself on a new frontier: it is working with several states and the U.S. Fish and Wildlife Service to sort out what is killing bats in New York and New England.

Although White-Nose Syndrome (WNS) has not been found in Pennsylvania - and agency officials hope it stays that way - the state is fast becoming an integral player in regional and national efforts aimed at learning more about this unprecedented threat to bats.

Just mentioning the words White Nose Syndrome (WNS) to Pennsylvania Game Commission biologist Greg Turner brings concern to his face. He knows WNS is just over the border in New York, as well as Connecticut, Massachusetts and Vermont, and recognizes it's not something that Pennsylvania's bat population can endure without negative consequences. In many northeastern hibernacula where it has struck, WNS has decimated wintering bat colonies with mortality that ranges from 80 to 100 percent. Now there are symptoms in Pennsylvania bat hibernacula that have heightened concern among agency bat biologists, as well as the U.S. Fish and Wildlife Service.

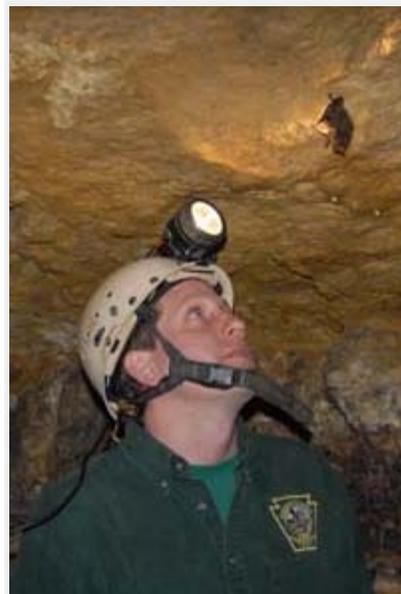
"We found fungus on bats' ears and wings - similar to that on bats afflicted with WNS in Vermont and New York - at sites in Fayette, Luzerne and Blair counties," said Turner. "One of the sites, Hartman Mine, at Canoe Creek State Park in Blair County, is the state's largest hibernaculum for Indiana bats, a federally endangered species.

"The good news is no dead bats have been found to date in Pennsylvania, and the bats we captured in mist nets leaving hibernacula were not grossly underweight, a noticeable condition observed in many bats affected with WNS. But with WNS surfacing only 11 miles away from our New York border, it now seems that it might just be a matter of time. That's why the Game Commission is gearing up to try to identify the progression of WNS and shed further light on how this mysterious disorder kills bats."

"This spring, New York and New England sustained terrible losses," Turner said. "The Fish and Wildlife Service has projected tens of thousands of bats may be lost to WNS in New York and New England in 2008. Should Pennsylvania - with more than 4,000 mines and 1,000 caves - become the next hotbed, we could sustain even larger losses."

WNS was first documented in New York in late 2006. Its discovery occurred during routine surveys counting endangered Indiana bats, a large portion of which had inexplicably disappeared from one hibernaculum. Wildlife officials then noticed a strange white fungus on the muzzle of the bats still remaining - hence the syndrome's name. The problem worsened in 2007 as officials investigated reports of bats flying from hibernacula in mid-winter and in broad daylight, when they were supposed to be hibernating. Some bats bore no sign of disease or sickness, but were underweight and leaving their wintering quarters, which is abnormal. Others had white fungus around their noses and/or on their ears and wings.

All affected states and the USFWS have sent afflicted bats to laboratories throughout the United States. This effort includes several bats from Barton Cave - on Forbes State Forest in Fayette County - and Hartman Mine, because some white fungus was found on otherwise apparently healthy bats in recent Game Commission fieldwork. But lab-work has yet to shed further light on anything. As Susi von Oettingen, a USFWS endangered species biologist, said recently about WNS, "We have no clue what it is right now and it doesn't look like we're going to find out anytime soon. Nothing like this has been documented in bat populations anywhere else in the world to



PGC Photo/Joe Kosack

**A Closer Look:** Game Commission biologist Greg Turner checks hibernating bats this spring in Hartman Mine at Canoe Creek State Park in Blair County.

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PGC Photo/Greg Turner

**Funky Fungus:** Researchers are still unsure what the fungus is or represents, or if it has anything to do with bats dying. This bat recently was photographed at Canoe Creek Mine in Blair County.

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this extent."

It remains unclear whether the fungus is killing bats, an up-until-now unrecognized byproduct of cave hibernation, or a secondary opportunist attacking already weakened bats. Currently, the best WNS indicators are mass mortality, early emergence from hibernacula and erratic daytime flying.

An associated problem WNS causes in hibernacula occurs when movement by afflicted bats awakens healthy bats hibernating nearby. These repeated disturbances may cause healthy bats to draw from critical fat reserves they need to make it through winter. When a bat awakens from hibernation, its body temperature rises from around 45 degrees, to about 100, burning up considerable fat reserves unnecessarily. Awakened too often, a bat cannot sustain hibernation, and it will starve to death foraging for food on a winter landscape.

Wildlife managers investigating these unusual and desperate eruptions from hibernacula in New York and elsewhere haven't been able to pinpoint what is causing bats to behave so erratically. And now Game Commission bat biologists, regarded as one of the best management teams in the country, will get their chance to investigate this enigma.

WNS has drawn the U.S. Fish and Wildlife Service's attention. The agency is working closely with the four states where WNS has appeared, as well as Pennsylvania and other New England and Mid-Atlantic states. Although the federal response isn't a red alert, there is great concern, because bats are so gregarious and often state-hop - wintering in one state, summering in another. This lifestyle increases the likelihood of contact with affected bats or sites, as well as the potential for huge losses among our bat populations.

"Our three possible sites will be monitored intensively this fall and next winter to develop baseline data in the event WNS shows up in Pennsylvania," Turner said. "Mostly, we'll band and weigh bats taken in traps at entrances, and then see if they return. Recording weights will help us ascertain whether bats are entering hibernacula ill-prepared to hibernate, or leaving with a health problem they contracted while wintering. We also will focus on examining their hibernating patterns and conditions with Dr. DeeAnn Reeder, a bat physiologist at Bucknell University."

Theories abound about what's happening to the Northeast's cave bats. Although wildlife managers attribute the chronicled behavior and mass mortality to WNS, they can't positively identify what causes it. It could be the fungus, or the fungus could be a symptom. It may be a pathogen. If it is, where did it come from, why is it spreading so rapidly, and why haven't American cave bats been through this before? Or have they? So much remains unclear, including how to rank the threat this deadly enigma poses to bats in the Northeast, or the tens of thousands of federally-endangered Virginia big-eared bats and gray bats in the huge limestone caves south of the Mason Dixon Line.

What is clear is Pennsylvania's newfound role in this unfolding conservation drama. "Pennsylvania appears to be directly in the path of where WNS is heading next, so the Fish and Wildlife Service will be looking to the Game Commission to try to uncover the early warning signs that we didn't have a chance to look for in New York, Vermont and Massachusetts," explained von Oettingen. "We're optimistic the Game Commission can assist us in learning how other states can prepare to deal with WNS."

Of course, von Oettingen, also is hoping for the best. "My hope is that white-nose syndrome stops in New York and New England," she said. "If it doesn't stop, I don't even want to think about it, because we could lose more Indiana bats and it could be an unmitigated disaster for small-footed bats."

The Game Commission will have a chance to shed light on WNS as soon as this summer when bats head to Pennsylvania maternity roosts, such as Canoe Creek Church and "bat condos" on State Game Lands. "There's no doubt some New York bats summer in Pennsylvania, and there's a possibility they could influence the health of some maternity colonies," von Oettingen said. "So it will be important for Game Commission biologists to monitor the population and health of their colonies."

The USFWS plans to continue facilitating and coordinating the regional response to WNS, and is looking for sources of additional funding to help states sort out what's happening within their borders. It also will continue to analyze suspect bats at its laboratories and coordinate to have other leading laboratories assist in this effort.



PGC Photo/Joe Kosack

**Tight Formation:** Cave bats like these little brown bats, hibernate in both small and large groups in caves and mines throughout the state. These bats recently were photographed at Canoe Creek Mine in Blair County. [Get Image](#)

In Pennsylvania, Turner said the Game Commission will focus on summer maternity roosts and prepare for monitoring bats heading into hibernacula in the fall. He also noted Northeastern bat biologists will meet in June to establish priorities for collecting data at hibernacula this fall and winter, and brainstorm for funding to help defray the cost of additional fieldwork. Without supplemental funding or manpower assistance from other states, however, there will be a limit to how much fieldwork the Game Commission can accomplish on this important front.

Bats are a tremendous asset to wildlife communities, and humans. Collectively, they eat insects by the tons and spare Pennsylvanians from myriad backyard flying pest and crop-damage issues. Unfortunately, people know more about elephants than they do bats. So misinformation about bats often overshadows the good they do and their importance in Pennsylvania's biodiversity. For more information on [bats](#), visit the Game Commission's website at [www.pgc.state.pa.us](http://www.pgc.state.pa.us). To learn more about WNS, visit the USFWS's website at [www.fws.gov/northeast/white\\_nose.html](http://www.fws.gov/northeast/white_nose.html).

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PGC Photo/Cal Butchkoski

**AN Asset:** Pennsylvania's bats, like this little brown, are important members of the state's wildlife community.

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