

# White Nose Syndrome: A Second Year Look at the Conservation Challenges

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It was a year ago that I wrote the first comprehensive article on the White Nose Syndrome crisis for the NSS News Conservation issue. A lot has happened since then, and the roller coaster seems to get bumpier every day.

Case in point: Just last night, I had a wonderful hour and a half long conversation with someone from the U.S. Fish and Wildlife Service (USFWS), who also happens to be an NSS member and long-time caver. He was calling to offer assistance with the 2010 NSS Convention, to be held here in Vermont. We discussed them helping with the WNS decontamination station, having an educational display, and even some special field trips to WNS sites. It was a nice, collaborative call.

Then, today, the environmental advocacy group, the Center for Biological Diversity, issued its call for federal agencies to close all caves and mines on their land in the contiguous 48 states. They also called for a new rule making it illegal to travel between any caves with any bats on public or private lands, including commercial caves, and for landowners to be equally liable if they permitted the same. So much for the collaborative mood.

You are probably reading this article in the middle of March, but I'm writing it January 21. As a result, I can only predict what may occur in terms of the spread of WNS between this writing and its publication.

Most everyone involved in the WNS investigation has been bracing for another difficult winter. Indeed, we are already receiving reports and confirmation of new WNS sites in Pennsylvania, New Jersey, Virginia, and West Virginia.

The sighting of bats flying outside of Hellhole Cave, West Virginia, has set federal and state agency personnel into high gear. This is a major hibernaculum, historically containing some 200,000 bats, including

two endangered species, the Indiana bat, *Myotis sodalis*, and the Virginia big-eared bat, *Corynorhinus townsendii virginianus*. The spread of WNS to a new species would be a serious development, and could threaten extinction for this bat.

## WNS 2009 DEVELOPMENTS

I am sure there will be other news, but let's take a brief look at this year's major developments:

- WNS was confirmed in several new states, Pennsylvania, New Jersey, Virginia, and West Virginia, before spring emergence ended reports.
- The Second Science Strategy Conference was held in Austin, Texas. Research needs and priorities were identified for the coming year.
- A symposium at the National Institute on Mathematical and Biological Synthesis brought mathematical modeling and infectious disease expertise to the table in an organized fashion for the first time.
- A joint U.S. House Subcommittee hearing on WNS was held, featuring testimony by wildlife officials, leading researchers, and the NSS.
- The International Congress on Speleology and NSS Convention severely cut back on pre- and post-convention field camps, and cave trips avoided bat caves during the convention. A special four-hour session was held on WNS.
- The USFWS held a wildlife managers symposium in Pittsburgh to develop management strategies.
- In the fall, USFWS issued a draft WNS plan, and later a report on their internal Structured Decision Making process designed to offer management advice to owners of caves affected by WNS.
- USFWS awarded \$800,000 in WNS research grants.

- Congress came through and appropriated \$1.9 million additional funding for WNS research and monitoring activities.
- The North American Society on Bat Research (NASBR) held its annual Symposium in Portland, Oregon, with a major session on current WNS research. This is really the first relatively comprehensive look at research that has been completed, and only a few of the WNS studies have made it through the investigation processes to being published.
- The NSS WNS Rapid Response Fund has continued to grow to support timely and priority WNS research. Five new grants were awarded this fall. Photos accompanying this article show some of the work funded by the NSS at two Virginia WNS sites – the current front line of WNS as we go to press.

## UPCOMING FOCUS ON WNS

As we continue to brace for a tough winter, we're already looking ahead. The third annual WNS science strategy meeting is being organized for late May. This year's model will return to the format of the first Albany conference, where scientists, wildlife managers, and non-government organizations (including the NSS) are together.

The NSS is also taking a look at its own WNS Policy Statement, and so is the USFWS. It is my sincere hope that we will have policies that are evidence-based, functional, and common sense.

Very importantly, we are preparing to host the NSS Convention in Vermont, deep in White Nose country. This will require extraordinary care in planning and conscientiousness on the part of those traveling to and from the Convention, and we ask for everyone's cooperation in making this both a fun and responsible event.



Joe Zokaites and Rick Reynolds examining a bat with WNS at Coon Hollow Cave, Virginia.



Taking wing measurements of WNS-infected bat at Coon Hollow Cave, Virginia



Scoring wing on WNS wing damage index, Coon Hollow Cave, Virginia

## CONSERVATION QUESTIONS

Last year's article had the subtitle, "A Conservation Challenge." That title is as good today as it was then, but we have learned some things over the past year that shed light on some of the conservation challenges. These may perhaps best be posed as questions:

- With such a focus on bats, are we ignoring or minimizing other parts cave conservation needs? We know bats are a primary energy source for other cave life. Are the solutions for WNS treatment or mitigation taking into consideration the needs of other cave species, some of which are also endangered?
- What about the water that flows through many caves? Hydrologists study not only its importance within the cave ecosystems, and its place in cave morphology, but also its critical role as public and agricultural water supply. Will chemical or biological treatment proposals for WNS take into consideration their potential effects on water quality? Will more aggressive proposals, such as the suggested penalties for private landowners under the Endangered Species Act, result in cave entrances being sealed, or sinkholes being refilled with rubbish, threatening that groundwater?
- What are the unintended consequences of cave closures? We already have reports of vandalism at caves closed by cave conservancies and public agencies. With a lower presence of experienced and conservation-minded cavers on site at caves, an increased use by the casual public, adventure groups, or party goers has serious implications for damage to fragile cave formations, cave life, and properties.

- What are the impacts of closures on other cave studies and conservation needs, such as archaeology and paleontology. What are the impacts of closures on normal academic studies underground through our higher education institutions?
- What are the long-range conservation ramifications if we were not able to introduce young people, through such organizations as the Boy Scouts and Girl Scouts, camps, etc. to the world of caves and the importance of conserving them and their resources? In this fast-paced media age, they will quickly go elsewhere to fill the time.
- What will happen to decades of government/caver volunteer value relationships at risk from over-reaction or misinformation? Will it take years to rebuild them? I think of my own wonderful experience with the week-long Mammoth Cave Restoration Camp partnership between the NSS and the National Park Service, just one example replicated across the country. To lose these would set cave conservation efforts back perhaps irreparably.

Clearly, White Nose Syndrome is going to be with us for a while. Its full impact may still remain to be seen – on bats, caving, ecosystems, and the economy. Its challenges and frustrations are many, yet we must channel our passion, our energy, our knowledge, and our skills constructively. The bats, the caves, and our Society will benefit in the long run.

For the latest developments on White Nose Syndrome, please visit the NSS WNS Web site at [www.caves.org/WNS](http://www.caves.org/WNS).

Please donate to the White Nose Syndrome Rapid Response Fund at [www.caves.org/donate/index.shtml](http://www.caves.org/donate/index.shtml)

## LETTERS

A group called Center for Biological Diversity (CBD) has filed a petition with the Secretaries of Interior, Agriculture, and Defense related to White-Nose Syndrome (WNS). The petition states: "The Center hereby petitions...the Secretary of Interior to promulgate a rule governing 'take' of endangered bat species in order to specify that transferring materials, whether knowingly or unknowingly, between caves and mines in areas where WNS has occurred to caves and mines in areas where WNS has yet to occur and could potentially spread to threatened and endangered bat species, constitutes a violation of prohibitions in the ESA [Endangered Species Act] against 'take' of listed species by any person...This rule should specify that persons traveling between caves may be engaging in an illegal activity and therefore subject to penalties specified in the ESA, that these restrictions apply to state and private landowners that permit persons to travel to caves under their jurisdiction, and that these restrictions apply not just to caves known to harbor listed bat species, but to all caves harboring bats because of the possibility that the pathogen could be spread from bat to bat after initial anthropogenic spread."

The petition presumes that WNS is spread by people who visit caves and mines. This has not been shown to be the case, and as pointed out in my article, a management strategy focused on keeping people out of caves will not protect bats from WNS. Problems are never solved by attacking the wrong enemy, and people who go in caves or allow others to go in caves under their ownership or control are not the enemy. However, biostupidity is a clear enemy.

In my article I noted that a study in Georgia found that 10% of the bridges in that state were currently or previously used by roosting bats. I developed an estimate of 868,000 bridges and culverts in the United States. Hopefully the CBD will not submit another petition to close all of these structures to human access in an equally illogical and unscientific effort to supposedly protect bats from WNS.

The petition will probably be denied by the Secretary of Interior and then the CBD may file suit. For the agencies this will be a terrible waste of time and money that might otherwise be spent in helping caves and bats. While we are relatively few in numbers, those of us who care about caves and bats need to help the public understand the WNS issue and the fundamental flaws in some of the proposed responses.

**Tom Aley**



Little Brown bats with obvious WNS in Newberry Baner Cave, Virginia.

Joe Zokaites