

USDA Forest Service Update

August 2011

Subject: White-Nose Syndrome and Bat Conservation



Issue: White-nose Syndrome (WNS) is a condition associated with the deaths of over 1 million bats in the eastern United States and Canada. Six species are known to have been killed by WNS since 2006, including the endangered Indiana bat. *Geomyces destructans*, the fungus associated with WNS, has been detected on three additional species, including the endangered gray bat, but to date there has been no mortality in these species. Monitoring bat populations and hibernacula, investigating disease, educating partners and the public, and slowing the spread of WNS are the primary focuses of land and resource managers and researchers.

Key Points:

- White-nose Syndrome is a condition apparently caused by the *Geomyces destructans* fungus, and is associated with mass mortalities at a growing number of bat hibernacula in the eastern states. It is spread from bat to bat during winter months.
- *Geomyces destructans* can be spread unknowingly from humans to caves to bats when people inadvertently transport fungal spores on clothing or gear from one cave to another.
- The Forest Service (FS) manages lands, caves and mines that are used for foraging and hibernation by many different bat species, including several endangered species.
- To minimize the spread of WNS to bat populations in other locations and states until research can get more answers on how to treat it, the FS is attempting to isolate the fungus by reducing transmission using the guiding principle of, “first, do no harm.”
- The FS is taking measures to combat WNS, including closing caves and mandating decontamination procedures. Such steps are intended to prevent people from disturbing hibernating bats and to reduce the chance that intruding humans will transfer *G. destructans* from one hibernaculum to another.
- The Forest Service is coordinating with state and federal wildlife agencies, researchers, cavers and others to learn more about WNS; implement WNS awareness activities; conduct population and hibernacula monitoring; share key information; manage to prevent its spread; and conduct key research. The FS has actively participated in developing a National Response Plan to assist states, federal agencies and tribes in managing the WNS crisis.

Forest Service WNS Actions in the West

Forest Service western regions are collaborating with other federal agencies (BLM, USFWS, NPS) and state wildlife management agencies to address WNS. In some cases, these collaborative efforts have resulted in the establishment of WNS committees. With *Geomyces destructans* on their doorstep, the Rocky Mountain Region implemented a regionwide emergency closure of caves and abandoned mines. They recently opened several caves under permit for the National Speleological Society convention. Decontamination is mandatory and no gear from a WNS affected state can be used. In the Southwestern Region, a Pre-WNS Response Plan has been finalized for New Mexico which calls for the targeted closure of caves determined to have significant bat roosts. In Arizona, a draft Response Plan is being prepared which would institute a similar approach. The Northern

Region is preparing to implement a regionwide emergency closure and the Intermountain, Pacific Southwest, Pacific Northwest, and Alaska Regions are assessing their options for managing WNS.

Limited resources, personnel, and lack of WNS-related baseline data require an efficient approach to addressing WNS. The Pacific Northwest Region has drafted a response plan that includes a WNS risk assessment to evaluate relative risk of WNS at the Huc-5 watershed scale. This approach helps prioritize geographic areas on which to focus limited resources. Other Regions are interested in adapting this approach for their needs, and some state agencies have requested more information. These regions also have begun discussions on a coordinated, west-wide WNS surveillance strategy based on the strategy drafted by wildlife ecologists from the NPS, BLM, and USFS.

Background: Bats are essential, beneficial wildlife, and play critical roles in insect control, plant pollination, seed dissemination and cave ecosystems. Bat mortality rates at WNS-affected sites are typically 80-90% and as high as 99%. A characteristic of WNS is the presence of a white fungus on the noses, and often the wing membranes and ears of some bats. It is thought to aggravate wintering bats, waking them up more frequently from hibernation, causing them to forage during the day in winter. This depletes fat reserves bats rely on for winter survival, and results in starvation and often subsequent death. WNS affected bats often roost near cave entrances. WNS afflicted bats that do survive the winter often display unusually high levels of fungal wing damage.

WNS was first discovered in two counties in New York the winter of 2006-2007. By winter 2007 - 2008, WNS had spread to 15 counties in four states. To date, WNS is known from more than 80 counties in 16 states from ME to west TN, and four Canadian Provinces. *Geomyces destructans*, the fungus associated with WNS, has been detected in three additional states. The furthest west known location of the fungus is Woodward County, OK. There is a very high risk of WNS spreading to other important U.S. bat species and populations in AL, IL, MO, AR and elsewhere.

Much monitoring and research is being done by state and federal agencies and organizations, including the Forest Service. Coordinating with state wildlife agencies, researchers, cavers and others, we assisted with the development of national and regional WNS response plans, and are assisting in the development of the WNS national implementation plan. We are monitoring winter and summer bat hibernation and maternity habitats, using appropriate decontamination procedures to reduce the risk of spreading the fungus, researching WNS, and conducting WNS awareness, information and education activities within the agency and with forest users and partners. The Forest Service issued a letter and interim strategy on WNS to its Regions on July 28, 2010. Congress held a joint subcommittee WNS hearing on June 4, 2009, and Federal agencies and the AFWA briefed Congressional committees on June 25, 2010. The House Natural Resources Subcommittee on Fisheries, Wildlife, Oceans, and Insular Affairs held a WNS oversight hearing on June 24, 2011. <http://naturalresources.house.gov/Calendar/EventSingle.aspx?EventID=246794>

Further Information

Bat Conservation International: <http://batcon.org/index.php/what-we-do/white-nose-syndrome.html>

National Speleological Society: <http://www.caves.org/WNS/WNS%20Info.htm>

USGS WNS site: http://www.nwhc.usgs.gov/disease_information/white_nose_syndrome/index.jsp

FWS WNS site: <http://www.fws.gov/WhiteNoseSyndrome/index.html>

Battle for Bats brochure: <http://www.fs.fed.us/biology/resources/pubs/tes/wns-brochure8310.pdf>

Video - The battle for Bats: White Nose Syndrome: <http://www.cavebiota.com/>

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