National Wildlife Health Center
Wildlife Health Bulletin 2014-04

White-Nose Syndrome Updates for the 2013/2014 Surveillance Season

To: Natural Resource/Conservation Managers
From: Dr. Jonathan Sleeman, Center Director, USGS National Wildlife Health Center
Date: August 5, 2014

Wildlife management agencies in three states—Arkansas, Michigan, and Wisconsin—reported their first confirmed cases of white-nose syndrome (WNS) among clinically affected cave-hibernating bats this past winter season, increasing the total number of affected states to 25. Although no new Canadian provinces were added in winter 2013/2014 to the five that are affected, continued expansion of the disease was reported in Nova Scotia, New Brunswick, Quebec, and Ontario, as well as in the Midwestern and Southeastern United States. Evidence of clinical WNS now extends as far west as Jackson County, Missouri, which is on the border with Kansas, as far south as Paulding County, Georgia, and as far north as the 49th parallel in Quebec. Non-lethal PCR-based swab surveillance for the causative fungus, *Pseudogymnoascus destructans (Pd)*, was expanded into Great Plains and Southern states last winter, and the fungus was detected for the first time in several central Mississippi counties. Despite the addition of several new states to the list of WNS confirmed states, there were not any large geographic jumps in the continued spread of white-nose syndrome during winter 2013/2014. Wide-spread detection of *Pd* and clinically ill bats in multiple counties throughout Missouri indicates that the disease is now endemic there.

Also of note, Woodward County, Oklahoma, classified in spring 2010 as "WNS suspect", was removed from the official list of areas suspected to be contaminated with *Pd* based on ongoing surveillance and subsequent reanalysis of archived samples at NWHC using an improved molecular test (PCR). As a result, cave myotis (*Myotis velifer*) has been removed from the list of species found to harbor *Pd*, although this species likely remains at risk for infection as WNS continues to spread westward. More information is available about these changes at https://www.whitenosesyndrome.org/news/ (posted May 7, 2014). *Pseudogymnoascus destructans* was also recently identified by molecular testing (PCR) of a silver-haired bat (*Lasionycteris noctivagans*) hibernating at a site in Delaware known to be contaminated with the fungus since winter 2011/2012. View the current map of WNS Occurrence by County created by the Pennsylvania Game Commission at http://www.nwhc.usgs.gov/disease_information/white-nose_syndrome/

Continued surveillance during the winter hibernation period through spring emergence (based upon swab-sampling of bats and hibernaculum substrates) is highly encouraged next season in states at the edge of known *Pd* distribution, adjacent states of unknown status, as well as strategic sites identified in western states. In addition to detecting *Pd* presence in new sites lacking clinical disease, cluster sampling around recently identified *Pd* contaminated sites will help assess the rate and distance of *Pd* movement and evaluate risk factors thought to be associated with its detection at hibernacula. Surveillance options outside this time period or geographic region also exist as does continued monitoring for *Pd* exposure in bats within the WNS endemic region.

The NWHC provides diagnostic and epidemiological assistance to investigate unusual bat mortality events throughout the year. Tribal, state, and federal agencies wishing to participate in the expanded national *Pd* surveillance strategy should contact Anne Ballmann (608-270-2445, aballmann@usgs.gov) to discuss options for their region.

Current NWHC bat submission guidelines are available at: http://www.nwhc.usgs.gov/disease_information/white-nose_syndrome/USGS_NWHC_Bat_WNS_submission_protocol.pdf.

WNS Communications, Publication, Video of Interest

The WNS Communications and Outreach Working Group of the Interagency WNS National Plan developed some key messages that will help wildlife officials communicate with others who are not familiar with WNS. Knowing these messages will help us all speak in a unified voice about WNS. You can download these messages here.

A recent study, published in the Journal of Wildlife Diseases, demonstrated that long-wave ultraviolet (UV) light elicits a distinct orange-yellow fluorescence in bat-wing membranes (skin) that corresponds directly with the fungal cupping erosions in histologic sections of skin that are the current gold standard for diagnosis of WNS. USGS distributed a press release announcing the paper cited below.

Turner, G. G., C. U. Meteyer, H. Barton, J. F. Gumbs, D. M. Reeder, B. Overton, H. Bandouchova, T. Bartonicka, N. Martínková, J. Pikula, J. Zukal, D. S. Blehert, 2014. **Nonlethal screening of bat-wing skin with the use of ultraviolet fluorescence to detect lesions indicative of white-nose syndrome** Journal of Wildlife Diseases 50(3): 566–573.

Ravenswood Media, the company that produced the video "Battle for Bats: Surviving White-Nose Syndrome," has now completed a Spanish version of the film (translated by Rodrigo Medellin). English and Spanish versions are available at https://www.whitenosesyndrome.org/resource/battle-bats-surviving-white-nose-syndrome-english-and-spanish-versionsvideo

Disease Investigation Services

To request diagnostic services or report wildlife mortality events in the lower 48 states, Alaska, or Puerto Rico, please contact the NWHC at **608-270-2480** or by email at NWHC-epi@usgs.gov, and a field epidemiologist will be available to discuss the case. To request these services or report wildlife mortality events in Hawaii or Pacific Island territories, please contact the Honolulu Field Station (see below). You may be asked to complete the Wildlife Mortality Reporting and Diagnostic Submission Request Form. A field epidemiologist will be your primary point of contact for questions on disease epidemiology and management. A wildlife pathologist will be your primary point of contact on diagnostic findings and cause of morbidity or mortality. Field epidemiology and pathology team members are listed below. Further information can be found at our Web site: http://www.nwhc.usgs.gov/services/.

Field Epidemiology Team Contacts:

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