



**National Wildlife Health Center
Wildlife Health Bulletin 2015-02**

**Bat Submission Guidelines for White-Nose Syndrome Surveillance
and Early Detection of *Pseudogymnoascus destructans***

To: Natural Resource/Conservation Managers
From: Dr. Jonathan Sleeman, Center Director, USGS National Wildlife Health Center
Date: March 13, 2015

The USGS National Wildlife Health Center (NWHC) has updated the [Bat Submission Guidelines](#) for the 2014/2015 white-nose syndrome (WNS) surveillance season. These guidelines, which are posted on the NWHC [WNS web page](#), replace all previous NWHC bat submission criteria. Included are reference charts to assist submitters with selecting priority species and appropriate samples for diagnostic submission based on location. A map that designates WNS Management Areas as either within the endemic area, the intermediate area, or the at-risk area is included on page 10. These guidelines support the [WNS National Plan](#) surveillance objectives for identifying new geographic locations and bat species impacted by WNS and the causative fungus *Pseudogymnoascus destructans* (*Pd*).

In addition to the updated Bat Submission Guidelines, please see the recently revised [WNS case definitions](#) and the WNS Diagnostic Working Group [guidelines](#) for safe handling of potentially infectious materials harboring *Pd*. Guidance on acceptable methods for euthanasia of bats for diagnostic evaluation of WNS is available upon request.

NWHC continues to provide a limited number of swab sampling kits—a non-lethal sampling option—to state wildlife agencies nationwide to assist with early detection of *Pd*, and to address specific research priorities identified by state and federal agency partners in conjunction with the WNS National Plan Coordination and Steering Committees. To confirm WNS in new areas or on bat species not previously known to be infected, please collect and submit carcasses or wing biopsy samples collected under UV illumination for histopathological evaluation (for best diagnostic interpretation, whole carcasses are preferable to wing biopsies). For more details, please refer to the [submission guidelines](#).

NWHC advises delaying entry into bat hibernacula to conduct surveys until mid- to late-winter as fungal infections of hibernating bats generally become more readily detectable as the season progresses. However, please note that disturbing hibernating bats can cause unintended mortality in otherwise healthy bat populations. As an alternative to entering hibernacula, observation of increased bat activity during the hibernation season can be indicative of WNS.

For information on bat surveillance guidelines during spring emergence or to discuss swab-based sampling, please contact Anne Ballmann (aballmann@usgs.gov) at 608-270-2445.

Recent Publications of Interest

Verant, M.L., C.U. Meteyer, J.R. Speakman, P.M. Cryan, J.M. Lorch, and D.S. Blehert. 2014. [White-nose syndrome initiates a cascade of physiologic disturbances in the hibernating bat host](#). *BMC Physiology* 14(10):10 p.

This study proposes a mechanistic framework to define how WNS progresses from initial infection to death in hibernating bats. This framework can now be used to facilitate identification of testable hypotheses about WNS disease processes to potentially minimize disease severity and bat mortality.

Lorch, J.M., A.M. Minnis, C.U. Meteyer, J.A. Redell, J.P. White, H.M. Kaarakka, L.K. Muller, D.L. Lindner, M.L. Verant, V. Shearn-Bochsler, and D.S. Blehert. 2015. [The fungus *Trichophyton redellii* sp. nov. causes skin infections that resemble white-nose syndrome of hibernating bats](#). *Journal of Wildlife Diseases* 51(1):36-47.

This study demonstrates that fungal skin infections are not a novel occurrence among hibernating bats of North America but were likely overlooked before the arrival of *Pd* to the continent. Investigating other fungal pathogens, such as *T. redellii*, and the infections they cause in hibernating bats could provide new insights into WNS pathogenesis, host and pathogen ecology, and pathogen evolution.

An updated list of WNS-related publications from the USGS is available at:

http://www.nwhc.usgs.gov/disease_information/white-nose_syndrome/wns_publications_list.jsp

For more information about the interagency response to WNS, please visit: <http://www.whitenosesyndrome.org/>

Disease Investigation Services:

To request diagnostic services or report wildlife mortality, 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 report wildlife mortality events in Hawaii or Pacific Island territories, please contact the Honolulu Field Station at 808-792-9520 or email Thierry Work at thierry_work@usgs.gov. Further information can be found at <http://www.nwhc.usgs.gov/services/>.

Wildlife Mortality Reporting and Diagnostic Submission Request Form

If you have any questions or concerns regarding the scientific and technical services we provide, please do not hesitate to contact NWHC Director Jonathan Sleeman at 608-270-2401, jsleeman@usgs.gov.

To see past Wildlife Health Bulletins, click [here](#).

WILDLIFE HEALTH BULLETINS are distributed to natural resource/conservation agencies to provide and promote information exchange about significant wildlife health threats. If you would like to be added to or removed from the mailing list for these bulletins, please contact Gail Moede Rogall at 608-270-2438 or e-mail: nwhc-outreach@usgs.gov.