



National Wildlife Health Center  
Wildlife Health Bulletin 2013-01

## White-Nose Syndrome (WNS) Winter Submission Guidelines

**To: Natural Resource/Conservation Managers**  
**From: Dr. Jonathan Sleeman, Center Director, USGS National Wildlife Health Center**  
**Date: January 17, 2013**

The National Wildlife Health Center has updated the [WNS Winter Submission Guidelines](#) for the 2012/2013 WNS surveillance season. These guidelines, which are available on the NWHC [WNS Web page](#), replace all previous NWHC WNS submission criteria. Included is a reference chart to assist submitters with selecting priority species and appropriate samples for diagnostic submission based on location (either within or outside of the WNS endemic area). These guidelines support the [WNS National Plan](#) surveillance objectives for identifying new geographic locations and bat species impacted by WNS.

New to the winter guidelines this year is guidance about the appropriate use of ultraviolet light (UVA) to screen bat wing membranes. Note that this is an investigational screening technique with unknown diagnostic specificity outside the WNS endemic area (shown on map on page 9 in the guidelines). This technique will not confirm WNS, but can be used to direct targeted nonlethal sample collection on bats lacking visible fungus for more robust diagnostic testing. It should not be used as the sole sampling methodology in areas where WNS has not been previously confirmed.

Disturbance at bat hibernation sites can result in unintended mortality in otherwise healthy bat populations. NWHC advises delaying entry into caves for surveys until mid-February, as fungal growth is expected to be more visible in contaminated sites as the season progresses. Additionally, hibernacula can be monitored at entrances for signs of increased bat activity in areas where the presence of WNS is unknown.

NWHC is now using a new molecular technique (real-time PCR) with improved sensitivity and specificity for detecting *Geomyces destructans*, the fungus that causes WNS. Use of this technique is explained in a recent [publication](#) listed below (Muller, L.K., and others, 2012).

Another recent study, published in [Applied and Environmental Microbiology](#), demonstrated that *Geomyces destructans* persists for long periods of time and remains viable in the soil of caves where bats hibernate (Lorch and others, 2012); this study reinforces the importance of following decontamination protocols when visiting bat hibernacula. A [USGS Top Story](#) highlights the findings of this publication.

### Recent WNS Publications

Lorch, J.M., and others, 2012. [Distribution and environmental persistence of the causative agent of white-nose syndrome, \*Geomyces destructans\*, in bat hibernacula of the eastern United States.](#) *Applied and Environmental Microbiology*, doi: 10.1128/AEM.02939-12

Lorch, J.M., and others, 2012. [A culture-based survey of fungi in soil from bat hibernacula in the eastern United States and its implications for detection of \*Geomyces destructans\*, the causal agent of bat white-nose syndrome.](#) *Mycologia*. doi:10.3852/12-207

Meteyer, C.U., and others, 2012. [Pathology in euthermic bats with white-nose syndrome suggests a natural manifestation of immune reconstitution inflammatory syndrome.](#) *Virulence*, v. 3, no. 7, 1-7.

Muller, L.K., and others, 2012. [Bat white-nose syndrome: a real-time TaqMan polymerase chain reaction test targeting the intergenic spacer region of \*Geomycesdestructans\*.](#) *Mycologia*, doi:10.3852/12-242

Thogmartin, W.E., and others, 2012. [Population-level impact of white-nose syndrome on the endangered Indiana bat.](#) *Journal of Mammalogy*, 93: 1086-1098.

Verant, M.L., and others, 2012. [Temperature-dependent growth of \*Geomyces destructans\*, the fungus that causes bat white-nose syndrome.](#) *PLoS ONE*, v. 7, no. 9, e46280.

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

To report or request assistance for wildlife mortality events or health issues, please visit the NWHC Web site at [http://www.nwhc.usgs.gov/mortality\\_events/reporting.jsp](http://www.nwhc.usgs.gov/mortality_events/reporting.jsp) or contact Dr. Anne Ballmann, 608-270-2445, [aballmann@usgs.gov](mailto:aballmann@usgs.gov); Dr. LeAnn White, 608-270-2491, [clwhite@usgs.gov](mailto:clwhite@usgs.gov); Barb Bodenstein, 608-270-2447, [bbodenstein@usgs.gov](mailto:bbodenstein@usgs.gov); Dr. Thierry Work, 808-792-9520, [thierry\\_work@usgs.gov](mailto:thierry_work@usgs.gov) (Hawaii and Pacific Islands); or Jennifer Bradsby, 608-270-2443, [jbradsby@usgs.gov](mailto:jbradsby@usgs.gov) (single mortality events nationwide).

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