

What is White-nose Syndrome (WNS)?

WNS is new disease afflicting hibernating insectivorous bats in the north-eastern United States. Since its identification in 2006, over one million bats have died. Symptoms of this disease include conspicuous white powdery deposits on the muzzle (hence the name White-nose Syndrome), ears and wings of bats. Such individuals have depleted fat reserves preventing them from surviving the winter. In addition, affected bats may also exhibit abnormal behaviour including flying in daylight in sub-zero conditions. This behaviour may be the result of the depleted energy reserves causing hungry bats to arouse from hibernation early in order to feed.

A psychrophilic (cold-loving) fungus, *Geomyces destructans*, has been identified to be associated with WNS. This newly identified fungus is considered to be a recent mutation.

Where are the affected areas?

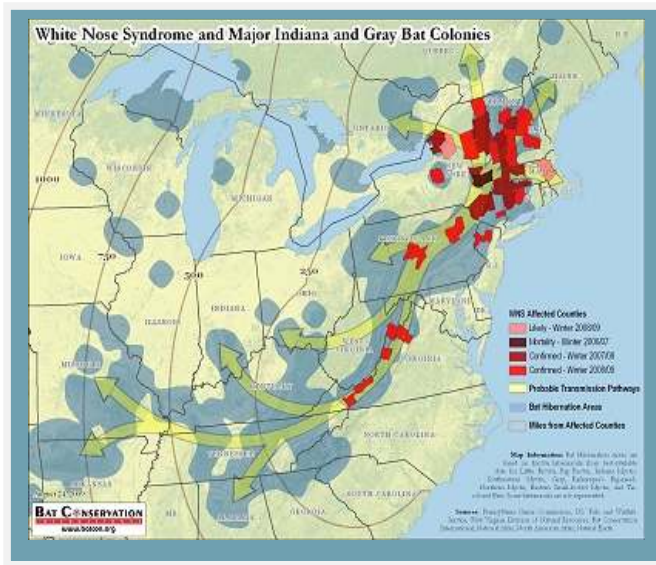
WNS was first observed in a cave in Albany, New York during the winter of 2006. Since then, populations of cave-hibernating bats have been drastically declining as it spreads southwards (See map). Mortality rates as high as 100 percent have been observed in hibernacula affected by WNS in the United States.

To-date, this fungus was restricted to the north-eastern United States, however, a bat (*Myotis myotis*) found in a cave in France on the 12th March 2009 was confirmed to have the fungus. In addition, bats in Germany and The Netherlands have been observed with fungal growths, but WNS has not been confirmed. However, it is important to state that no mass deaths have occurred in caves outside of the U.S. No case of WNS afflicted bats have been reported in Ireland to-date. As some bat species migrate long distances between summer and winter roosts it is important for bat workers and cave users throughout Europe to be aware of the risks and to report anything suspicious.

White-nose Syndrome

BCIreland Fact Sheet January 2010

Photo: Meteyer et al. July 2009. JVDI Vol 21 No. 4.



How is WNS transmitted?

Scientists are reasonably certain that WNS is transmitted from bat-to-bat. However the fungus may also be transported by people from cave to cave and, as a result, caving activity in WNS-affected states and adjacent states in the U.S. has been curtailed.

In addition, cave users are asked to avoid entering caves and other underground sites during hibernation and also to disinfect clothing and gear between site visits. While WNS has not been found in Irish caves, many of our bat species are known to hibernate in caves. Therefore it is important that Irish cave users are aware of WNS and take precautionary action.

As a precaution we would advise cave users to take into consideration the following guidelines:

If you are visiting caves in Ireland, please ensure that equipment is thoroughly cleaned and disinfected prior to use. Please report any dead bats to your local wildlife ranger 1800 405000 or to Bat Conservation Ireland 046 9242882 / info@batconservationireland.org. Please report any unusual bat behaviour to either of the above contact groups.

If you are visiting caves in Europe, please ensure that equipment is thoroughly cleaned and disinfected prior to use. Please report any dead bats or any unusual bat behaviour to the national wildlife organisation of the visiting country.

If you are visiting caves in the U.S., please honour cave closures. Please ensure that all equipment is thoroughly cleaned and disinfected prior to future use. Please do not use the same equipment used in U.S. caves as those used in Irish or European caves and vice versa to prevent any possible cross-contamination.

What to look for:

Bats with white fungus particularly around the nose and ears and on the wings and tail.

Bats clustered near the entrance of the cave or underground site or in areas not normally associated with hibernating bats.

Bats flying out in daytime during the winter in temperatures below freezing.

Dead or dying bats at the entrance to caves and underground sites during the winter.

If you observe possible WNS infected bats, please do not touch the animal(s). If possible (and if licensed to do so) please take a photograph, note the name of site, grid reference of the site and report immediately to NPWS or Bat Conservation Ireland.

If dead bats are present, please report to NPWS or Bat Conservation Ireland immediately. Collection of such corpses is important for general monitoring of bat populations and will aid surveillance of WNS. Such bats should be bagged and frozen.

Further Reading

Containment and decontamination procedures:
<http://www.fws.gov/northeast/wnscavers.html>

White-nose Syndrome: Guidelines for Bat Workers and Cavers

<http://www.fws.gov/midwest/Endangered/mammals/inba/BatAilment.html>

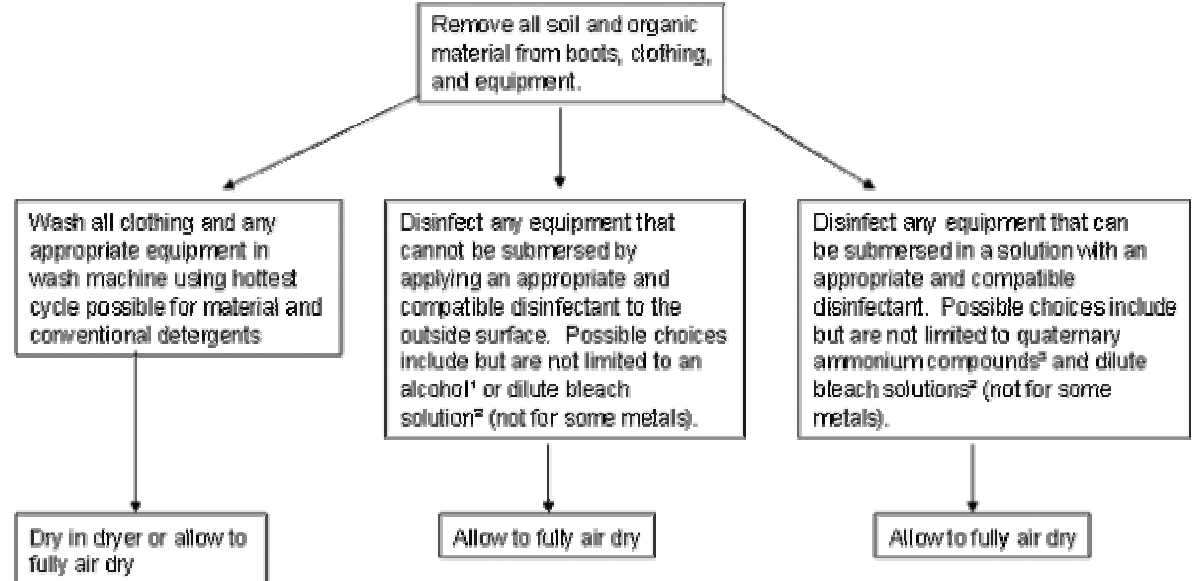
White nose syndrome FAQs:
<http://www.fws.gov/northeast/pdf/white-nosefaqs.pdf>

Article on White nose syndrome in the US:
http://www.fws.gov/northeast/white_nose.html

Article on bat with WNS fungus in France:
<http://www.cdc.gov/eid/content/16/2/pdfs/09-1391.pdf>

BCIreland Batline: 046 9242882
NPWS Bat Helpline: 1800 405000

Equipment Decontamination Procedure



Boots need to be fully scrubbed and rinsed so that all soil and organic material is removed. The soles of the boots can then be disinfected with an appropriate disinfectant, including but not limited to, quaternary ammonium compounds³ and dilute bleach solutions² (not for some metals).

Footnotes:

¹**Alcohol:** A 70 percent or greater isopropyl alcohol is a readily available and good choice.

²**Bleach** solutions: These products can be corrosive to some metals and irritating to skin. Consult manufacturers' guidelines for appropriate use. Bleach solutions (5.25 percent sodium hypochlorite) to be used for disinfectants are diluted in the range from 1:100 (1 part bleach in 100 parts water, which supplies approximately 500 ppm available chlorine) to 1:10 (1 part bleach in 10 parts water which supplies approximately 5000 ppm) depending on the surface to be disinfected. The 1:100 dilution is appropriate for smooth pre-cleaned surfaces, whereas the 1:10 dilution is appropriate for porous surfaces that are difficult to pre-clean.

³**Quaternary** ammonium compounds: Specific choices include, but are not limited to, Sparquat 256 and the antibacterial form of Formula 409®.

Further information on WNS can be found at:
<http://www.fws.gov/midwest/Endangered/mammals/inba/BatAilment.html>

Fact Sheet available on Bat Conservation Ireland website www.batconservationireland.org

This fact sheet was compiled by BCIreland from a number of web-based resources including those listed under further reading.

