White-Nose Syndrome Alert

BAT CONSERVATION FACT SHEET I APRIL 2016

DID YOU KNOW A WILDLIFE HEALTH CRISIS MAY AFFECT BATS IN B.C.?

SPECIAL POINTS OF INTEREST:

WNS is a fungal disease that has been associated with mass die-off of hibernating bats in eastern North America

WNS has not yet been detected in B.C.

You can help by learning more about WNS and what you can do to prevent its spread

INSIDE THIS ISSUE:

What is White-Nose Syndrome (WNS)?

White-nose Syndrome (WNS) is a fungal disease that has been associated with mass die-off of hibernating bats in North America. The name refers to a white fungus that grows on the muzzles and bodies of bats found in mass die-offs since 2006. More than six million bats have died and mortality rates at affected sites are 80-100%. Many North American bat species that hibernate are thought to be at risk, with extinctions of some species possible.

White Nose Syndrome has been found throughout eastern North America. One case has recently been detected in Washington State (March 2016).

The fungus causing the disease is *Pseudogymnoascus destructans*. This morphologically distinct fungus is known across Europe and Asia, although bats live with low levels of the fungus in these locations.

The fungus grows best at the low temperatures associated with bat hibernation (4–10°C). WNS kills bats through various physiological and physical means: wing damage, respiratory acidosis, and starvation and dehydration due to repeated arousal to groom fungal growth during winter.

Fungal transmission is not fully understood. Disease spreads bat to bat but humans can also play a role. Cavers, other recreationists such as geocachers, people frequenting mines, and bat biologists, may spread the disease through spores on boots, clothing, or equipment. Accidental translocation of infected bats via long-haul transport vehicle may also spread the disease.

Little brown bats with White-Nose Syndrome, New York. Photo courtesy Nancy Heaslip, New York Dept. of Env. Conservation

What does WNS look like?

Bats with WNS exhibit some or all of the following symptoms (descriptions adapted from USGS, National Wildlife Center):

- White, powdery fungus seen around the muzzle, ears, wing/limbs, and/or tail;
- Excessive/unexplained mortality at the winter hibernacula;
- Thin and/or dehydrated and furless areas appear wrinkled and flaky ;
- Delayed arousal from torpor following disturbance;
- Aberrant behaviours (e.g. found on ground inside or outside the hibernaculum, roosting near hibernaculum entrance, increased activity outside the hibernaculum during winter, flying during the day)

Fungal growth on ear. Photo courtesy of Greg Turner, Pennsylvania Game Commission

Does White-Nose Syndrome pose a threat to humans?

No. There is no indication of human health risk from this fungus.

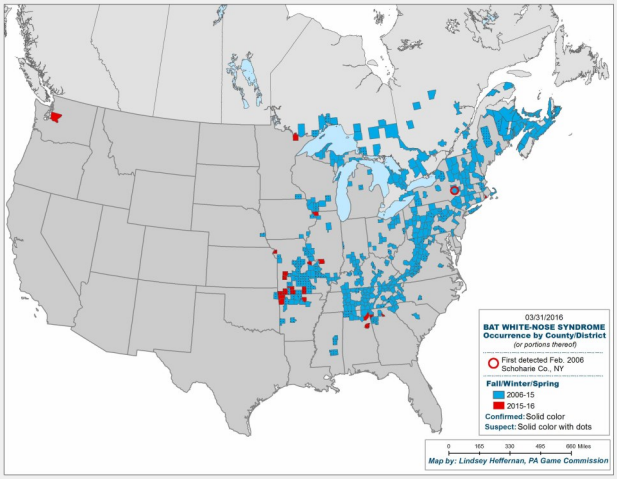
Little brown bats: single bat in center has white-nose syndrome
Photos courtesy of Ryan von Linden, New York Dept. of Environmental Conservation

How is WNS transmitted?

Little is known about this disease. WNS is spread from bat to bat during winter months at infected hibernation sites, but its route of transmission in the summer months is unknown. It is speculated that WNS is also spread by human-mediated transport of fungal spores. For example, cavers, other recreationists such as geocachers, people frequenting mines, and bat biologists, may spread the disease through spores on boots, clothing, or equipment. Extra caution should be taken by cave visitors to avoid accidentally transferring spores from infected to non-infected sites. There is also the possibility that infected bats could be accidentally transported into uninfected areas. Bats can unknowingly be transported long distances by trucks and RVs for example; people are encouraged to carefully inspect awnings and umbrellas, before rolling them up to ensure there are no stowaway bats.

Where is WNS found?

WNS was first discovered in a cave in New York State in the winter of 2006 and is now found east of the Mississippi in the United States and east of Manitoba in Canada. The first case in western North America was detected in March 2016 in Washington State.



What is the risk of WNS in B.C.?

Ecological Cost

Bats are the primary consumers of night-time insects, and play an integral role in our ecosystem. Bats are important predators on insect pests. A mass die-off of bats is likely to have far-reaching effects on the ecosystem and industries such as forestry and agriculture.

Impact on Bat populations

In the NE US where WNS was first found, all cave hibernating species of bats are affected (6 species). Several of these same bat species are found in B.C. Potentially, all cave and mine hibernating species in B.C. could be vulnerable to this disease (14 of 16 B.C. bat species).

Bats are long-lived mammals, with some species known to live 35+ years. Most species of bats have only one young per year; population sizes will therefore be slow to recover from a mass die-off. Populations are unlikely to recover in our life times. Some bat species extinctions in North America are predicted without effective conservation intervention. Prevention, and conservation measures are currently being investigated intensively.

WNS risk of arrival

WNS has recently been detected in Washington State. This significantly increases the risk of WNS appearing in BC either by direct bat to bat contact or via spores carried on humans and equipment from WNS areas.

Did you know?

Bats are the slowest reproducing mammals and longest-lived mammals for their size.

What can you do to help?

The first step is to ***prevent human transmission of WNS to B.C.*** WNS could be inadvertently introduced into B.C. on clothing or equipment used underground or in contact with bats. Help slow the spread of spores from affected areas in the US, eastern Canada, Europe, and Asia.

The best way to prevent accidental introduction into B.C. is to ***not enter bat roosting habitat in BC with any equipment or clothing previously used in WNS affected areas.***

If avoidance is not possible, decontaminate all clothing, gear and equipment. Decontamination protocols are available for bat researchers and other users/frequenters of bat habitats.

Follow protocols on the BC Wildlife Health site:

http://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/wildlife/wildlife-health/wildlife-diseases/white-nose-syndrome

For further information

www.whitenosesyndrome.org/topics/decontamination

At a minimum, boots, clothing and equipment should be washed in >60°C water for 20 minutes. Large equipment and non-submersible gear can be cleaned with 10% bleach solution, Clorox or Lysol wipes, or other fungicide containing at least 0.26% quaternary ammonium. Prevent accidental transport of bats (e.g., RV awnings, sun umbrellas, semi-truck trailers, moving containers) through vigilance, and not leaving doors, umbrellas and other stow-away locations open for bat entry.

If you find sick or dead bats, please do the

Contact any of the specialists listed on page 4 of this newsletter for instructions on what to do with the specimens. You can also contact your regional Ministry of Environment Biologist or the Conservation Officer Service and inform them of the situation.

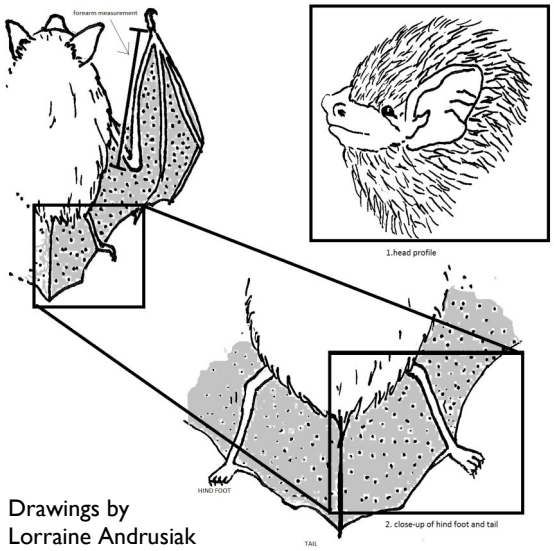
Dead or sick bat collection protocol

1. Photograph the scene and bats.

2. Record time, date, and exact location.

3. If the bat is dead and covered in obvious white powdery fungus, please do the following:

- Using GLOVES (do not use bare hands, due to risk of rabies), place each dead bat into its own Ziploc bag. Disposable vinyl or nitrile gloves are ideal. If not available, place plastic bags over your hands and turn inside out into the ziplock bag.
- Label each bag with date, location (including nearest town/city), collector name and phone number. Place in cool storage.
- Throw away gloves, or if not disposable, decontaminate gloves using hot water wash, or a 10% bleach solution.
- If you are unable to reach anyone immediately, keep specimens cool or freeze them f you can. If unable to do any of the above, discard dead bats where you found them to prevent transport of pathogens to other locations.
- If possible, take photographs of the bats that show the views indicated below, ensuring a ruler showing millimeters is also included in the image.



Drawings by Lorraine Andrusiak

If you come across a bat on the ground, looking sick, dehydrated and wrinkled, injured or dead, do not touch the bat or let your pets near the bat, as there is potential for transmission of rabies.

Contact specialists listed on page 4 as soon as possible. You may be given instructions for diagnostic sample collection, but in most cases a current rabies vaccination is essential prior to handing a live bat.

If you find dead bats, use gloves to collect and send them to your nearest contact (see page 4 of newsletter).

If you find sick or dead bats, please contact (in order of preference):

Dr. Helen Schwantje
Phone: (250) 751 3234
Helen.Schwantje@gov.bc.ca

Dr. Purnima Govindarajulu
Phone: (250) 387-9755
Purnima.Govindarajulu@gov.bc.ca

Dr. Cori Lausen
Wildlife Conservation Society
Canada; clausen@wcs.org

Enquiry B.C.: 1-800-663-7867
(ask for regional
species at risk biologist)

This fact sheet was produced as a collaborative effort between the B.C. Ministry of Environment, B.C. Ministry of Forests, Lands, and Natural Resource Operations, Wildlife Conservation Society and the B.C. Bat Action Team (B.C. BAT). B.C. BAT was formed in May 2009, by a group of biologists, government representatives, naturalists, educators and others who are concerned about the conservation of bats in B.C.

For more information about B.C. BAT, contact bcbats@gmail.com or visit:
http://www.bcbats.ca/

Very special thanks to Cori Lausen, Wildlife Conservation Society Canada for the initial draft of this fact sheet and assistance with updates; and to the other B.C. BAT volunteers who assisted with layout and editing: Lorraine Andrusiak, Doug Burles, Juliet Craig, Laura Friis, Purnima Govindarajulu, Susan Holroyd, Cait Nelson, Aaron Reid, and Helen Schwantje.

How to learn more about WNS

If you have questions about WNS please contact Dr. Helen Schwantje, or Dr. Purnima Govindarajulu.
http://www.env.gov.bc.ca/wld/wldhealth/

If you want to learn more about WNS and the research and monitoring initiatives underway, please visit the following websites:

Canadian Cooperative Wildlife Health Center
http://www.ccwhc.ca/white_nose_syndrome.php

White Nose Syndrome.*org* A coordinated response to a devastating bat disease
http://www.whitenosesyndrome.org/

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