

## Background

White-nose syndrome (WNS) is a fungal disease that affects bats. Pd is the fungus that causes WNS. Pd has been detected in BC – see press release -

<https://news.gov.bc.ca/releases/2023FOR0019-000426> . A great resource is [www.whitenosesyndrome.org](http://www.whitenosesyndrome.org)

WNS is

- A fungal disease that arose in 2006 – source is outside North America (first detected in New York state)
- Caused and is causing huge die-offs of bats across North America (over 1 million every year)
- At least 6 million bats in Eastern N. America

Pd is

- *Pseudogymnoascus destructans*
- Grows on muzzle and body of bats
- Fungus grows best in cool temperatures (5-10°C), and requires moist conditions.

### Where is it found?

- WNS has been documented in 8 provinces and 38 states including near BC - Washington, Saskatchewan, and Montana – see maps here: [http://www.cwhc-rcsf.ca/white\\_nose\\_syndrome\\_reports\\_and\\_maps.php#maps](http://www.cwhc-rcsf.ca/white_nose_syndrome_reports_and_maps.php#maps) (soon to be updated)
- Pd was reported in Alberta in 2022

### Which bats does it affect?

To-date it affects seven of our western bat species, and can be found on five others. That is 12 of our 17 species.

### How does it kill the bat?

- The fungus awakens bats from hibernation to groom & remove fungus; this also allows immune system to fight fungus.
- Acidosis due to disruption of normal renal function (dehydration); physiological disruption causes death in most cases.
- Energy required to wake up and groom uses up fat reserves, and so bats can starve.
- Likely: bats die of starvation trying to fight off fungus AND physiological imbalance caused by wing damage.

### Symptoms:

- White, powdery fungus – in winter, and sometimes in spring.
- Extreme mortality of bats
- Thin, dehydrated bats
- Delayed arousal from hibernation
- Strange behavior in winter such as flying in the middle of the day

**Key messages to the media, from the perspective of the BC Community Bat Program, include:**

- 1) Pd, the fungus responsible for WNS, has just been confirmed in BC, in a guano sample collected near Grand Forks in 2022
- 2) The disease White Nose Syndrome (WNS) is spreading in Washington, and expected to be in BC in the near future.
- 3) WNS is deadly for bats (90 – 100 % mortality in the east), but does not affect humans.
- 4) We have 7 species known to be affected : Little Brown Myotis, Northern Myotis, Long-eared Myotis, Yuma Myotis, Fringed Myotis, Long-legged Myotis, and Big Brown Bat known to be affected. But the majority of our 15 species could be vulnerable.
- 5) We need people to keep their eyes open for dead bats and winter bat activity, to monitor the spread of disease. Please collect dead bat specimens (without touching them with your bare hands) and contact your local bat program immediately.
- 6) There is no cure for WNS at present, but improving our understanding of what species of bats are affected, and how the disease is spreading, will guide management and possibly help prevent the spread of disease.
- 7) Researchers are looking for cure or preventative treatment – eg Cori Lausen (wildlife Conservation Society Canada) – developing bacterial treatments for bats to inhibit growth of fungus; UV light kills fungus but requires testing
- 8) WNS is just one of the many threats facing our bat populations – also habitat loss (esp urban and rural expansion), climate change, forest fires

**Why people should care**

- 9) Bats in BC eat insects! Essential part of our ecosystem – eat up to ½ bodyweight in insects each night in the summer
- 10) Consume forest, agricultural, and human insect pests

11) Estimated value of organic pest control is ~ 23 billion USD/year in USA

### What people can do:

- 12) For people with bat roosts, please document when you first see bats arrive in spring so we have a better sense of timing.
- 13) Report bats in winter – we are leaning that some species (such as silver-haired) are active in winter, while detections of others could be a red flag for WNS
- 14) Participate in the Annual Bat Count.
- 15) Become a Bat Ambassador.
- 16) Continue to steward bats on private property and with your local community so we can promote resilient summer bat populations. (e.g. maintaining roosts, safe exclusions, bat boxes, bat-friendly community development). Contact us for information.
- 17) Report bat colonies, bat sightings, dead bats at [www.bcbats.ca](http://www.bcbats.ca) – all info helps us understand our bats better and may help us learn how to minimize impacts from WNS and other threats
- 18) **Be aware of the potential for human transport of spore - DECONTAMINATE** if you are travelling between sites with bats and/or bat guano. Find the most up-to-date summer decontamination protocols here: <http://www.cwhc-rscf.ca/docs/miscellaneous/Recommendations%20for%20WNS%20decontamination%20during%20summer%20activities.pdf> and detailed protocols here: [http://www.cwhc-rscf.ca/docs/WNS Decontamination Protocol-Mar2017.pdf](http://www.cwhc-rscf.ca/docs/WNS%20Decontamination%20Protocol-Mar2017.pdf)