Oregon Caves

National Park Service
U.S. Department of the Interior

Oregon Caves National Monument

White-Nose Syndrome (WNS)

Bats are dying. White-nose syndrome, named for the white fungus that appears on the muzzle of diseased bats, is associated with extensive mortality of bats in North America and is spreading rapidly. Scientists are studying this new fungus, *Geomyces destructans*, which thrives in the cold, humid environments of caves and mines. Millions of bats have died since the disease's outbreak in 2006-07.

How Does WNS Affect Bats?

Bats are most susceptible to white-nose syndrome during hibernation, when their immune systems are suppressed. WNS causes bats to wake repeatedly, depleting their stored energy reserves and leading to starvation.

The fungus also breaks down muscle in bat wings, which play an essential role in regulating hydration and temperature. Infected wings lose their elasticity, resembling crumpled tissue paper.

Bats have been observed wing-walking on snow, unable to fly. Other unusual behavior exhibited by infected bats includes clustering in the cold entrances of hibernation shelters and flying in winter, causing bats to freeze to death.

How Does WNS Spread?

White-nose syndrome has spurred one of the fastest geographic spreads of any wildlife disease. WNS has been confirmed as far west as Oklahoma. Current estimates suggest WNS will be found across the northern and middle US and southern Canada within about three years.

Bat to Bat:
In dense clusters of hibernating bats, WNS spreads quickly. Grooming, including mutual nose rubbing – a common practice among infected bats – accelerates the spread of WNS.

Biologists hopefully predict WNS would spread more slowly in the western US, where bats tend to be more dispersed and roost in smaller groups.

Oregon Caves is home to at least nine of the 15 species of bats found in the state. Individual bats, rather than a colony, hibernate in the cave between November and April.

An infected bat shows the white fungus on its muzzle.

Person to Bat:
People can transport fungal spores from affected caves and mines to unaffected sites via clothing, footwear, and gear. As a precaution against further spread, many caves and mines have closed. At caves that remain open such as Oregon Caves, restrictions on gear used in other caves are in place to help slow the spread of WNS.

An infected little brown bat.

Wing damage on an infected bat.

White fungus on a bat's muzzle.

Items in a NY mine covered with fungus.

What are the Potential Impacts of WNS?

The continued spread of WNS could lead to species extinctions, creating a ripple effect across ecosystems of caves, forests and farms.

Bats a hold key role in nature as insect-eaters, pollinators, seed spreaders, and prey. When feeding, bats at Oregon Caves eat as many as 500 insects per hour.

WNS is also changing cave recreation. Some caves have closed, while those that remain open allow entry only after WNS screening.

Bat biologists believe WNS could reach Oregon within the next few years, possibly causing several species found at Oregon Caves to be listed as endangered. The Monument's bat hibernation sites appear favorable for fungus growth.

Scientists are working to better understand WNS and find ways to treat this unprecedented disease. Research, monitoring and surveillance of bat roosts across the US are ongoing.

How Can I Help Stop the Spread of WNS?

WNS has not been found at Oregon Caves, and we want to keep it that way!

Sanitize items used in caves and mines. Visiting other caves is fun and educational. Caves are fascinating environments, and no two are alike! Help us preserve the unique ecosystem of Oregon Caves by following our WNS protocol:

If you have visited any cave, mine, or bat hibernation site east of the Rocky Mountains since 2005, or in Europe ever, there is a chance you could bring WNS with you when you visit Oregon Caves.

Research confirms that regular washing does not destroy WNS spores. Before embarking on a cave tour, leave potentially contaminated items at home, or sanitize items using proper methods, found at http://www.fws.gov/whitenosesyndrome/cavers.html

Avoid hibernating bats. Stay out of bat hibernation sites in winter. Bats appear to be most susceptible to white-nose syndrome while hibernating. Any disturbance can deplete their stored fat reserves and lower their immune system.

Respect all cave closures.

Report unusual bat behavior or unexplained bat deaths. In Oregon, contact the Wildlife Health Hotline at 1-866-968-2600. In other states, contact your state wildlife agency.

Tell Others. Share information about WNS with family and friends.

Test Your Knowledge

Answer the following true/false questions about WNS to see what you've learned. Armed with knowledge, you can help protect bats at Oregon Caves and across the US.

1. **T/F** Fungal spores of white-nose syndrome are removed from clothing by regular laundering.
2. **T/F** Scientists recently became aware of WNS.
3. **T/F** Bats are more prone to WNS during hibernation.
4. **T/F** WNS has killed less than one million bats.
5. **T/F** The loss of so many bats will impact agriculture, cave ecosystems, and insect populations.

Answer Key: 1. F. 2. T. 3. T. 4. F. 5. T.

Learn More Online

For more information on WNS, visit: www.whitenosesyndrome.org