

## **Region 9 Emergency Cave and Mine Closure Order Frequently Asked Questions**

### **Why are you prohibiting access to caves and mines?**

Cave and mine access restrictions are necessary to slow the spread of White-nose Syndrome (WNS), a disease that has killed nearly 500,000 bats during the last three years. In 2009 this disease spread south from New England into West Virginia and Virginia and now threatens to spread to the Midwest and Southeast. White-nose Syndrome is now threatening the federally endangered Indiana bat and Virginia big-eared bat, and is poised to move into areas where the federally endangered gray bat and Ozark big-eared bat are found. If it spreads to the south and west, it will affect some of the largest bat populations in the United States. Over 90% of the wintering bats in some New England caves and mines have died because of WNS. Therefore, introduction of WNS into caves or mines where these four endangered bat species hibernate could potentially lead to their extinction.

The fungus associated with WNS is new to science, and may possibly be an invasive species. The best available science shows that this fungus thrives in the cold and wet conditions common to caves and abandoned mines. While WNS is transmitted through bat-to-bat interaction inside caves and mines, there is strong evidence that suggests the fungus can be transported inadvertently from site-to-site on footwear and gear of cave visitors. The immediate suspension of caving activities is warranted until more information about the cause and spread of White-nose Syndrome can be determined.

### **Why isn't the Shawnee National Forest covered under the Regional Cave and Mine Closure Order?**

There was not a need to include the Shawnee National Forest in the Regional Cave and Mine Closure Order because the Shawnee's caves and mines had already been closed. The Forest Supervisor for the Shawnee National Forest issued an emergency closure order on March 13, 2009, for caves and mines with bats. The Shawnee's caves and mines are posted and/or gated closed to recreational use.

### **What is White-nose Syndrome?**

White-nose syndrome is a malady of unknown origin that has killed hundreds of thousands of bats across the northeast United States during the past three years and continues unchecked. Bats with WNS may exhibit a white fungus that is found around the muzzles, ears, or wings of affected individuals. Besides the white fungus around the nose of bats, other symptoms are displayed. In other areas where WNS has become established, bats have been found moving near the entrance to the caves and often coming out of the caves and flying around in the middle of the day. Bats displaying this abnormal behavior have reduced fat reserves. Many bats are non-responsive and many have been found dead both inside and outside of the caves.

### **What caves and mines are covered by the emergency closure order?**

All caves and mines on National Forest System lands are included in the closure order, unless they are posted open. The fungus associated with WNS grows in subterranean environments, so

all subterranean cave features and underground mines are included in this closure order. We will carefully assess the need for any caves or mines to remain open for continued caving activities.

**What is the timeframe for this emergency cave and mine closure order?**

This is an emergency closure order that will be in effect for a period of one year. We need to allow scientists time to learn more about WNS and how it spreads to and from caves and mines. After a period of one year, we would re-evaluate the scientific information to see if there is a need to continue the closure order or modify it.

**What proof do you have that people are contributing to the spread of WNS?**

The evidence collected to date indicates that human activity in caves and mines may be assisting the spread of WNS. The primary agent of concern is a fungus that is new to science and may possibly be an invasive species. This fungus grows best in the cold and wet conditions common to caves and abandoned mines and likely can be transported inadvertently from site-to-site on footwear and gear of cave visitors. The fungus can grow on many different organic materials, and appears to persist in caves and mines year-round. Fungal spores, and/or other microscopic organisms, can easily become attached to skin, hair, clothing and equipment, and it is possible that such elements could remain viable for weeks or months after leaving a subterranean environment.

While the mechanism of transmission is still unknown, the rapid dispersal of WNS from a single New York cave in 2006 to numerous sites in contiguous northeastern states by 2008 suggests that WNS is likely spread through direct bat-to-bat and bat-to-cave contact. Bats are likely the primary vector for WNS based on the rate of spread through 2008 and the behavior of the species affected.

There is mounting evidence, however, that human activity may also be responsible for spreading WNS, even during seasons when bats are not occupying caves. The discontinuous nature of the rapid spread of WNS, especially to the most recently discovered sites in West Virginia and Virginia, suggests that something other than bat-to-bat transmission is contributing to the spread of WNS. The potential for the human-assisted spread of WNS is further supported by the fact that many of the recently affected sites are also popular destinations for recreational cavers, while many bat hibernacula in less-popular or inaccessible caves between the newly affected caves and those affected in 2008 remain unaffected. Records of caver movements also reveal a connection between sites in these affected regions, additionally suggestive of a link to human activity.

**Are other agencies closing their caves?**

The National Speleological Society, the Northeastern Cave Conservancy, and Southeastern Cave Conservancy have closed some of their caves. The State of Virginia has closed caves located on state wildlife areas.

The U. S. Fish and Wildlife Service issued a cave advisory on March 26<sup>th</sup>:

1. *A voluntary moratorium, effective immediately, on all caving activity in states known to have hibernacula affected by WNS, and all adjoining states, unless conducted as part of an agency-sanctioned research or monitoring project. Caves infected with the WNS*

fungus may not show any obvious signs of its presence, and we do not know the actual geographic distribution of all affected sites. Human activity in affected caves may cause fungal spores and particles to become airborne, thereby contaminating exposed materials and allowing for transport.

2. *Cavers in regions outside the WNS-affected and adjacent states should be using clothing and gear that has never been used in caves or mines in the affected or adjacent states, and should thoroughly clean and contain all clothing and gear upon exiting those locations.* Because there is a lag time between the initial point of contact with the causative agent(s) of WNS and the first visible evidence of its presence, we cannot be certain that apparently unaffected sites do not pose a risk for contamination. In order to minimize the risk that WNS could travel across state, regional or national boundaries on clothing and equipment, we are advising that clothing and equipment used outside of the affected region be decontaminated following the protocols available on the Service WNS Web site (see below). This recommendation does not supersede state or local caving orders, and we request that cavers respect and observe all state and local cave closures and advisories.

### **Why care about bats?**

There are over 1,000 different species of bats worldwide and they make up about a quarter of all mammal species. They are important pollinators of such plants as mango, banana, and cashews. Fruit-eating bats are very important in the rain forest. They spread over half of the initial seeds in a cleared rain forest.

Bats are an important part of our natural system:

- They help control nocturnal insects, some of which are agricultural pests or annoying to man. For example, 70% of all the bats in the world eat insects and many of them use echolocation in order to find food and move around in the dark. Almost any insect that is active at night can be food for a bat, including moths, beetles, flies, crickets, gnats, mayflies, wasps, and mosquitoes. Many small insectivorous bats can eat more than 1,000 mosquito-sized insects in one hour. Another way to look at it is an individual bat can eat its body weight in insects in one night. These bats are able to eat so much because they have high metabolisms and expend lots of energy in flight.
- Many forms of cave life depend upon the nutrients brought in by bats and released from their guano (feces).
- Bats have contributed much to man's knowledge through scientific studies of their echolocation abilities, their biology and certain aspects of their physiology.

Bat populations all over the world are declining. In the United States, nearly 30 percent of our bat species are either listed as endangered by the federal government, or are candidates for such listing.

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