

Recommended caver practices and equipment protocols for reducing the risk of transmission of White Nose Syndrome by humans

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Prepared by the Virginia Department of Conservation and Recreation (DCR) Natural Heritage Program in consultation with members of the caving community and staff from the Virginia Department of Game and Inland Fisheries (DGIF). This statement is supported by the Virginia Cave Board, the Virginia Speleological Survey, the Cave Conservancy of the Virginias, the Board of the Virginia Region of the National Speleological Society, and the Butler Cave Conservation Society.

White Nose Syndrome (WNS) is a condition that has resulted in the deaths of hundreds-of-thousands of bats in the northeastern United States since 2006. It is associated with a *Geomyces spp* fungus that grows at cold temperatures and colonizes the skin of animals in cold environments. This is consistent with properties predicted for a causative agent of WNS-associated cutaneous infection. More on WNS can found at http://www.fws.gov/northeast/white_nose.html.

This winter cases of White Nose Syndrome (WNS) have been confirmed in Pendleton County, West Virginia. In February, surveys of significant bat and recreational caves in adjacent Highland and Bath counties in Virginia discovered what appears to be WNS in Breathing Cave in Bath County, located near the Highland County border. On March 3 in response to caver reports of dead bats, a survey of Clover Hollow Cave in Giles County identified a second apparent WNS outbreak. Specimens from both sites have been sent to USGS National Wildlife Health Center in Madison, Wisconsin for analysis.

This winter, 18 Virginia caves in Giles, Bland, Page, Wise, Lee, Bath, and Highland counties have been surveyed for WNS. So far, signs of WNS have only been observed in Bath and Giles counties. However, since Highland County lies directly between Bath County and Pendleton County, West Virginia, along the same belt of karst, it is likely that WNS is present there as well.

There is mounting evidence that humans may play a significant role in transmitting biological agent(s) responsible for WNS in bats. The strongest such evidence is that WNS is showing up first in the Virginias in recreational caves with high visitation. It is known that some of those cavers visiting the affected West Virginia Caves had previously visited WNS affected caves in New York. While it is unlikely that humans are the sole or even the primary vector, transmission of the disease by humans may increase both the rate of expansion and geographic extent of WNS.

The Virginia Cave Board and Natural Heritage Karst Program are asking for a moratorium (a voluntary ban) on all underground caving activity in Virginia until April 15, 2009. A new statement will be issued on or before that time. Please note that at that time, we may ask to further extend the moratorium. During the moratorium, three tasks will be accomplished.

1. Scientists from DGIF and DCR will work to identify significant bat caves to which access will be limited in an attempt to slow the spread of WNS by humans. A significant bat cave is defined as a cave used by rare or endangered bat species, significant numbers of common bat species, and/or a high diversity of bat species. Input from cavers is sought and encouraged (Carol.Zokaites@dcr.virginia.gov). A list of these caves will be posted on the VAR List of Closed and Limited Access Caves. Please note that many of the significant bat caves are already gated, closed, and/or have limited (seasonal) access.
2. Additional caves will be visited by biologists to better assess the current extent of WNS in Virginia. We will work to temporarily restrict access to caves in which WNS is present.
3. DGIF and DCR scientists will work with other biologists studying WNS to establish and refine protocols to reduce the possibility of transmission of WNS by cavers. The two major protocols under consideration are listed on the next page. Comment on these protocols is welcome, especially during the moratorium period (Wil.Orndorff@dcr.virginia.gov). Cavers choosing not to observe the moratorium are strongly urged to follow these draft protocols. Once the moratorium is lifted, all cavers will be asked to follow protocols to reduce the risk of transmission of WNS.

Draft protocols to reduce transmission of WNS in Virginia by humans

1. Geographic isolation of caving activity and/or gear:

Cavers are requested to limit their caving activity to one caving area as defined by a county or group of counties. The designation of caving areas appears at the end of this document. We are asking this because sterilization procedures are likely not 100% effective, especially since neither the specific causal agent nor mode of transmission has yet been definitively identified. Cavers choosing to cave in more than one of the defined caving areas are asked to dedicate a specific set of clothing and caving gear for each respective caving area. If you must go caving in multiple areas, complete disinfection of vehicles is recommended between trips to different areas. Special care should be taken to segregate any cave clothing and equipment dedicated for use in a given area from all other sets of clothing and equipment dedicated for use in other caving areas.

2. Strict adherence to decontamination procedures when moving between caves (even within the same geographically designated area)

After exiting one cave and prior to entering another cave, even within a designated caving area, decontamination practices as outlined by the U.S. Fish and Wildlife Service must be strictly adhered to. **ALL equipment must be cleaned!** These procedures are posted at:

<http://www.fws.gov/northeast/whitenosemessage.html#containment>

To reduce the risk of harboring or carrying the disease on their persons, cavers should thoroughly clean and scrub themselves with soap and hot water following each trip to each cave. All clothes worn while traveling to and from the caving area should be laundered as soon as possible following caving trips.

List of Virginia Caving Areas

Alleghany Highlands: Alleghany, Bath and Highland counties

Shenandoah Valley: Frederick, Clarke, Warren, Shenandoah, Rockingham, Augusta, and Page counties

Middle James and Roanoke River basins: Botetourt, Rockbridge, Roanoke, Craig (except RT 42 south of Newcastle) counties

New River North: Giles, Montgomery, and Craig counties (only RT 42 south of Newcastle)

New River South: Bland, Pulaski, and Wythe counties

*Holston: Smyth and Washington counties

*Clinch: Scott, Russell, and Tazewell counties

*Powell: Lee and Wise counties

* - These areas are in the upper Tennessee River basin, and include the northeastern boundary of the range of the Gray Bat (*Myotis grisescens*). This species is not yet affected by WNS. If you are caving in these areas, please only cave in these areas. If you are not caving in these areas, please do not start.