

Recommended measures to reduce the spread of White Nose Syndrome (WNS) in Virginia

April 15, 2009

These measures have been prepared by staff of the Virginia Department of Conservation and Recreation Natural Heritage Program and staff from the Department of Game and Inland Fisheries in consultation with members of the caving community. These measures are 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.

This statement is a revision of the March 6, 2009 statement from the agencies and organizations listed above.

On March 26, 2009, the US Fish and Wildlife Service issued an advisory requesting 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 a Fish and Wildlife Service sanctioned research or monitoring project. The advisory is posted on the internet at <http://www.fws.gov/northeast/wnscaveadvisory.html>.

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, several of which had been visited by cavers who 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.

While the best way to reduce the risk of human transmission of WNS is to observe the US Fish and Wildlife Service moratorium, the policies on the following page, if strictly observed, are sufficient to minimize this risk. (**Actions to reduce the risk of transmission of WNS by humans**).

This winter, 28 Virginia caves in Bath, Bland, Craig, Giles, Highland, Lee, Page, and Wise counties have been surveyed for WNS. So far, signs of a WNS outbreak have only been observed at Breathing Cave in Bath County and Clover Hollow Cave in Giles County. The USGS National Wildlife Health Center confirmed in March that bats from these caves were indeed affected by White Nose Syndrome.

Table 1. Virginia caves surveyed for White Nose Syndrome, Jan-Mar, 2009 (+ indicates WNS present)

Arbegast Saltpetre (Highland)	Marshalls (Highland)
+ Breathing (Bath)	Mustoe Ulcer (entrance only) (Highland)
Buddy Penleys (entrance area) (Bland)	New River (Giles)
Maucks (Page)	Newberry-Bane (Bland)
Clarks (Bath)	Parsonage (Highland)
+ Clover Hollow (Giles)	Repass Saltpeter (Bland)
Coon (entrance only) (Bland)	Rocky Hollow (Wise)
Crossroads (Bath)	Rufe Caldwell (Craig)
Gap (Cudjo's) (Lee)	Shires (Craig)
Grassy Springs (Lee)	Starr Chapel (Bath)
Hamilton (Bland)	Stonley's (Tazewell)
Hupmans (entrance only) (Highland)	Tawneys (Giles)
Kelly (Wise)	Varners (Highland)
Links (Giles)	Witheros (Bath)

Since March 6, biologists and karst scientists with the Department of Game and Inland Fisheries and the Virginia Department of Conservation and Recreation Natural Heritage Program, using input from the Virginia Speleological Survey, developed a list of 62 significant bat caves (see below) to be closed year-round in an effort to reduce interactions between humans and high concentrations of bats. Of these caves, twenty-one were already on the Virginia Region of the National Speleological Society (VAR) list of closed caves.

Actions to reduce the risk of transmission of WNS by humans

Effective April 15, 2009

1. Observation of cave closures:

- Significant Bat Caves: The attached list (Table 3) shows sixty-two Virginia caves that have been identified by biologists at the Virginia Department of Game and Inland Fisheries and the Virginia Department of Conservation and Recreation Natural Heritage Program for closure to help slow the spread of WNS. These caves are all significant bat caves, either in terms of numbers of bats, diversity of species, or presence of legally protected (endangered) species. These caves are included on the VAR List of Closed and Limited Access Caves. Individuals knowing of additional potentially significant bat caves should contact Rick.Reynolds@dgif.virginia.gov.
- WNS Positive Caves: Breathing Cave (Bath County) and Clover Hollow Cave (Giles County) Additional WNS Positive Caves will be added to the list if found
- State and Federal landowners are closing caves on their lands - please check on access before entering these caves.

2. 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, along with a map. We are asking this because sterilization procedures are not likely to be 100% effective, especially since neither the specific causal agent nor mode of transmission has yet been definitively identified. While unlikely, it is possible that the pathogen(s) could be transported not only on gear and clothing, but on or in the human body as well. Therefore we strongly recommend that cavers take the following precautions:

- Please limit your caving activity to one of the caving areas listed below in Table 2.
- Cavers who nonetheless choose to cave in more than one of the defined caving areas are asked to dedicate a specific set of clothing and caving gear to each respective caving area.
- If you must go caving in multiple areas, complete disinfection of the inside and the outside of vehicles is recommended between trips to different caving 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.
- Ropes should be dedicated to individual cave systems.

3. 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>

Please check this site frequently as updates are made as decontamination procedures are refined.

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.

Table 2. List of Virginia Caving Areas

Alleghany Highlands: Alleghany, Bath, Botetourt, and Highland counties

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

New River North/Roanoke: Craig, Giles, Montgomery, and Roanoke counties

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.

Map showing caving regions in Virginia



Table 3. List of caves closed in Virginia in an attempt to slow the spread of WNS

April 15, 2009

*ARBEGAST SALTPETRE (Highland)	MCMULLENS (Smyth)
ARBEGAST (Highland)	MOUNTAIN GROVE SALTPETRE (Bath)
**BACON (Lee)	MUSTOE ULCER (Highland)
*BANES SPRING (Bland)	NEW CASTLE MURDER HOLE (Craig)
+ BREATHING (Bath)	*NEWBERRY-BANE (Bland)
BUCHANAN SALTPETRE (Smyth)	PARSONAGE (Highland)
*BUDDY PENLEYS (Bland)	PAUL PENLEY (Bland)
CABIN CAVE (Highland)	*PEERY SALTPETRE (Botetourt)
*CASSELL FARM NO. 1 (Tazewell)	*REPASS SALTPETRE (Bland)
*CASSELL FARM NO.2 (Tazewell)	*ROCKY HOLLOW (Wise)
CATTLE (Lee)	ROCKY HOLLOW PIT (Wise)
CAULIFLOWER (Tazewell)	RUFE CALDWELL (Craig)
CHANCE DOVE (Rockingham)	*SHIRES SALTPETRE (Craig)
CHURCH MTN. (Rockingham)	*SPEERS FERRY (Scott)
CLARKS (Bath)	*STARR CHAPEL SALTPETRE (Bath)
+ CLOVER HOLLOW (Giles)	STONLEY (Tazewell)
COON (Bland)	SURGENER (Lee)
EDGAR BACON (Lee)	*TILSONS SALTPETRE (Smyth)
**FERRELLS (Russell)	VARNERS (Highland)
GAP (Lee)	WATER GAP (Tazewell)
GLENWOOD CHURCH (Tazewell)	*WARD COVE (Tazewell)
**GRASSY SPRINGS (Lee)	WARES (Bath)
*GRIGSBY (Scott)	*WITHEROS (Bath)
HAMILTON (Bland)	WITTIGS (Rockingham)
HEVENER (Highland)	WOLFE (Scott)
*HIGGINBOTHAM NO.1 (Tazewell)	YOUNG-FUGATE (Lee)
*HIGGINBOTHAM NO.2 (Tazewell)	
*HUPMANS SALTPETRE (Highland)	* (21) - on VAR closed cave list prior to WNS
*KELLY (Wise)	** (4) - other caves closed prior to WNS
LITTLE GRIGSBY (Scott)	+ - affected by White Nose Syndrome
LITTLE RIVER (Tazewell)	
LITTLE STARR CHAPEL (Bath)	
**LITTON NO.1 (Lee)	
*LOWMOOR (Allegheny)	
MARSHALLS (Highland)	
MARTY HARPER FISSURE (Rockbridge)	