

# White Nose Syndrome- What's happening to our bats? Part 2 – What is WNS?



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# White-nose Syndrome (WNS): A Threat to Bats in North America

The name describes an illness characterized by a white fungus, *Geomyces destructans*, typically found on the faces and wings of infected bats.



U.S. Fish and Wildlife Service, and  
Vermont Fish and Wildlife Department



*Geomyces destructans* thrives in the cool, damp conditions found in many caves, which are also ideal hibernation and roosting sites for many bat species.



# What is WNS?



## Clinical signs:

- A white fungus evident on the nose, ears, or wings of most affected animals
- Wing damage
- Depleted body fat



Jonathan Reichard





## Behavioral signs

### Abnormal behavior:

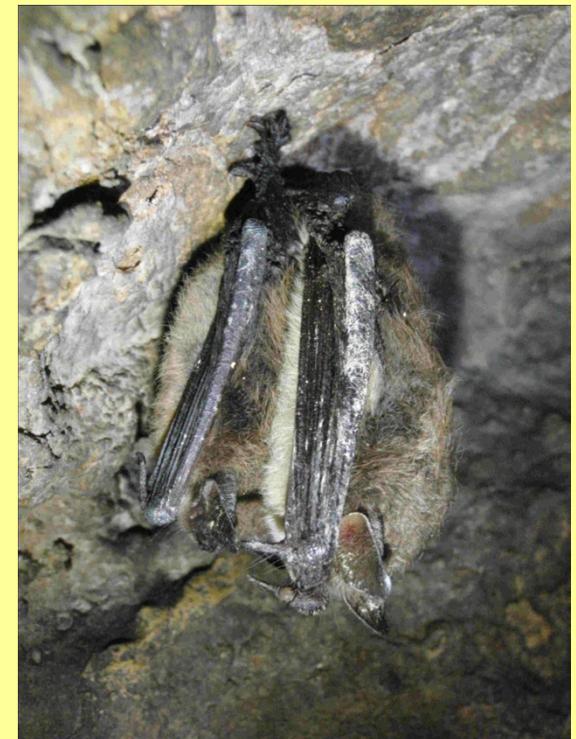
- Bats flying outside in daylight
- Dead bats near cave entrances or on landscape



# Wildlife Health Crisis

**Over 90% mortality at affected sites and spreading rapidly**

**Scientists describe WNS as the most serious known  
decline in North American wildlife.**



According to Bat  
Conservation

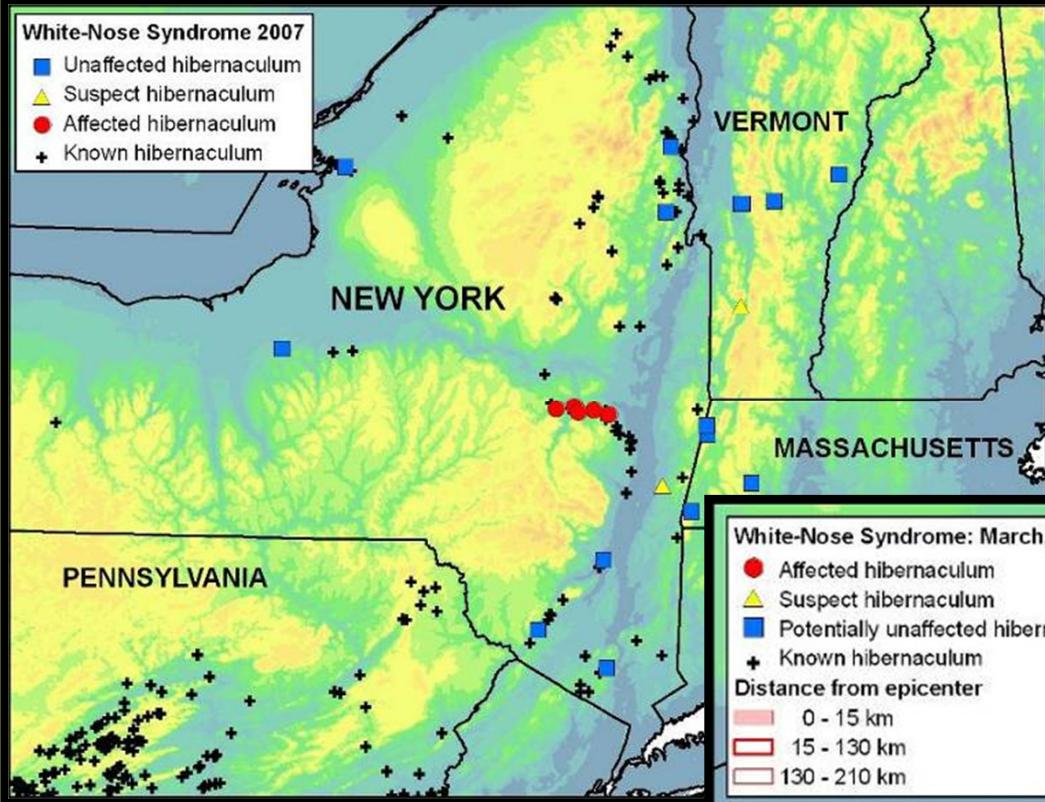
International WNS has  
killed more than a  
million bats.

Those one million bats  
would have consumed  
just under 700,000 tons  
of insects each year.

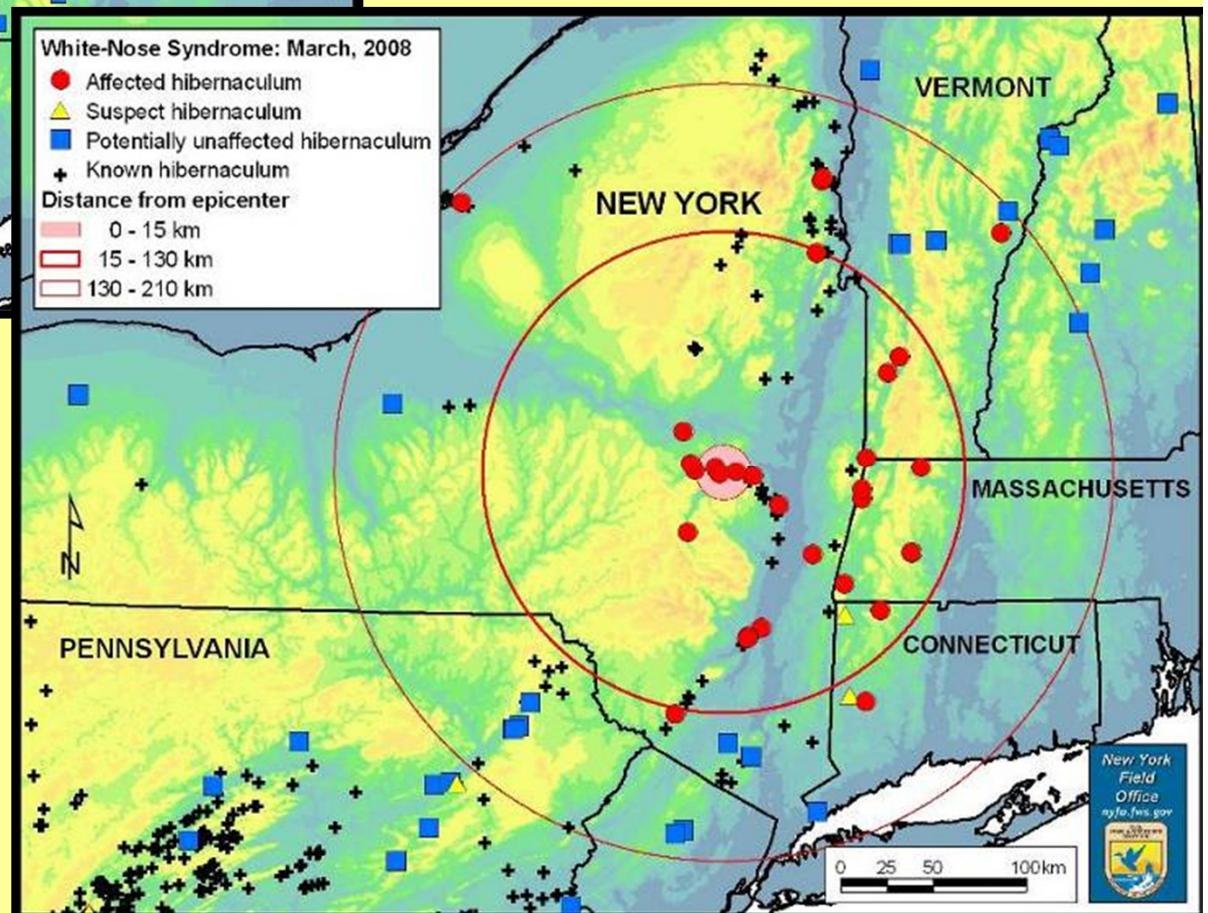
( the weight of about  
175,000 elephants.)



Dead bats in WNS Cave



2007 - 1 state,  
4 sites



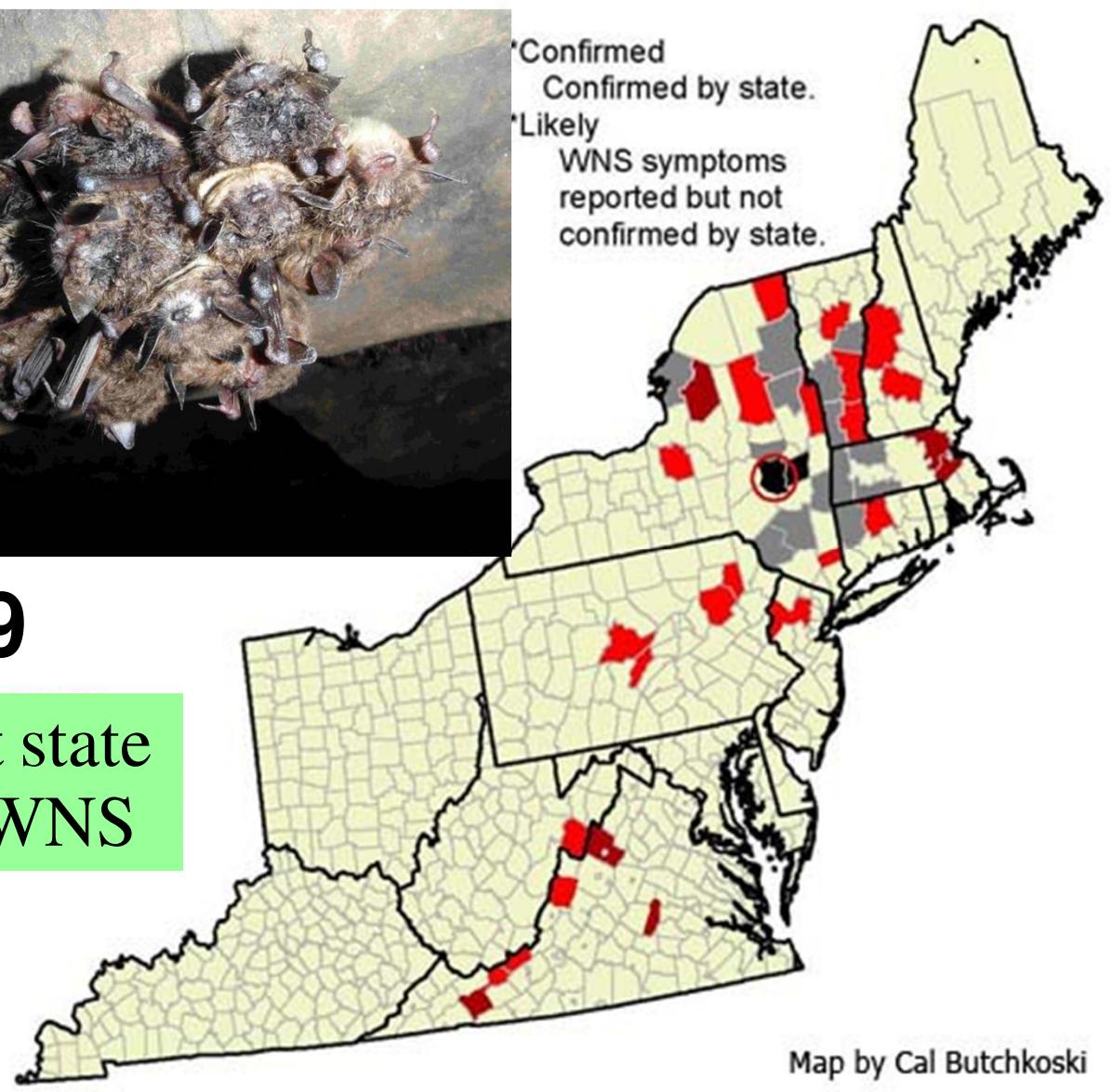
2008 - 4 states,  
38 sites

# White Nose Syndrome Found in VA



\*Confirmed  
Confirmed by state.

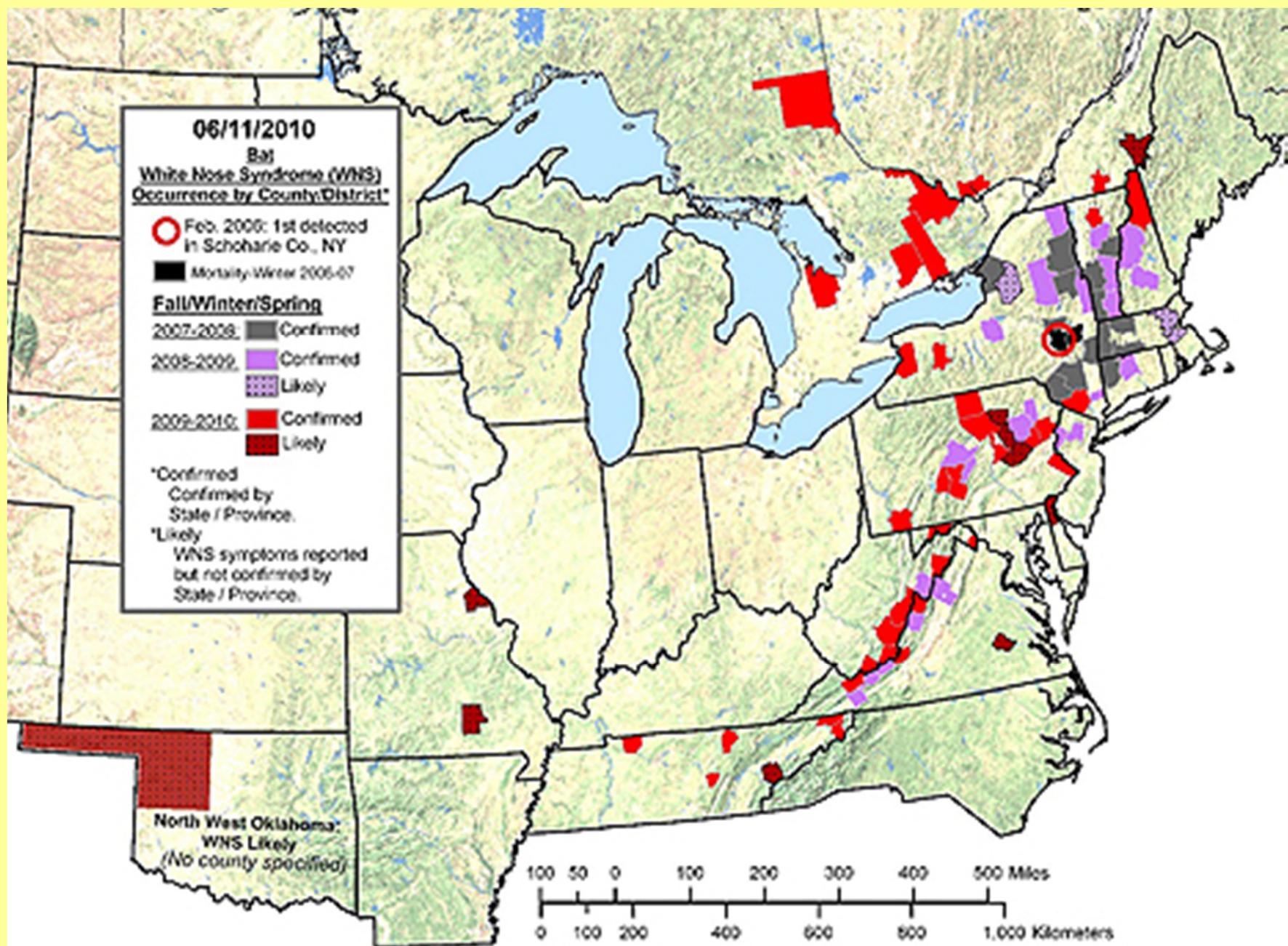
\*Likely  
WNS symptoms  
reported but not  
confirmed by state.



**Feb. 25, 2009**

The southernmost state  
with confirmed WNS

Map by Cal Butchkoski



Map by: Cal Butchko, PA Game Commission

# 2010 recap

- Found in Tennessee, south of Bristol Va.
- Found in Missouri, on the edge of the American Midwest in Gray bats.
- Found in the GSM National Park, in a cave that is home to the state's largest colony of endangered Indiana bats.
- Found in Southeastern Myotis in Chesterfield, Virginia, new species, new fauna!!!!
- Now in western OK in *Myotis velifer*, new species,new fauna!!!

As of June 1, 2010 bats with White Nose Syndrome have been found in 9 VA counties, Bland, Bath, Giles, Rockingham, Smyth, Tazewell, Highland, Craig and Chesterfield, with other sites showing early signs



## *Geomycetes destructans* found in *Myotis austroriparius* (Southeastern myotis)

- Spring, 2010: near fall line in Virginia, far from cave hibernacula
- Southeastern myotis not known to hibernate in Virginia's caves
- Potential for spread to southern bat populations via interactions with WNS positive *M. austroriparius*
- May have indicated that WNS had already spread deeper into the southeast

# How is WNS Spread?

Bat-to-bat

May be spread by human activity

(FWS has requested a voluntary ban on caving)

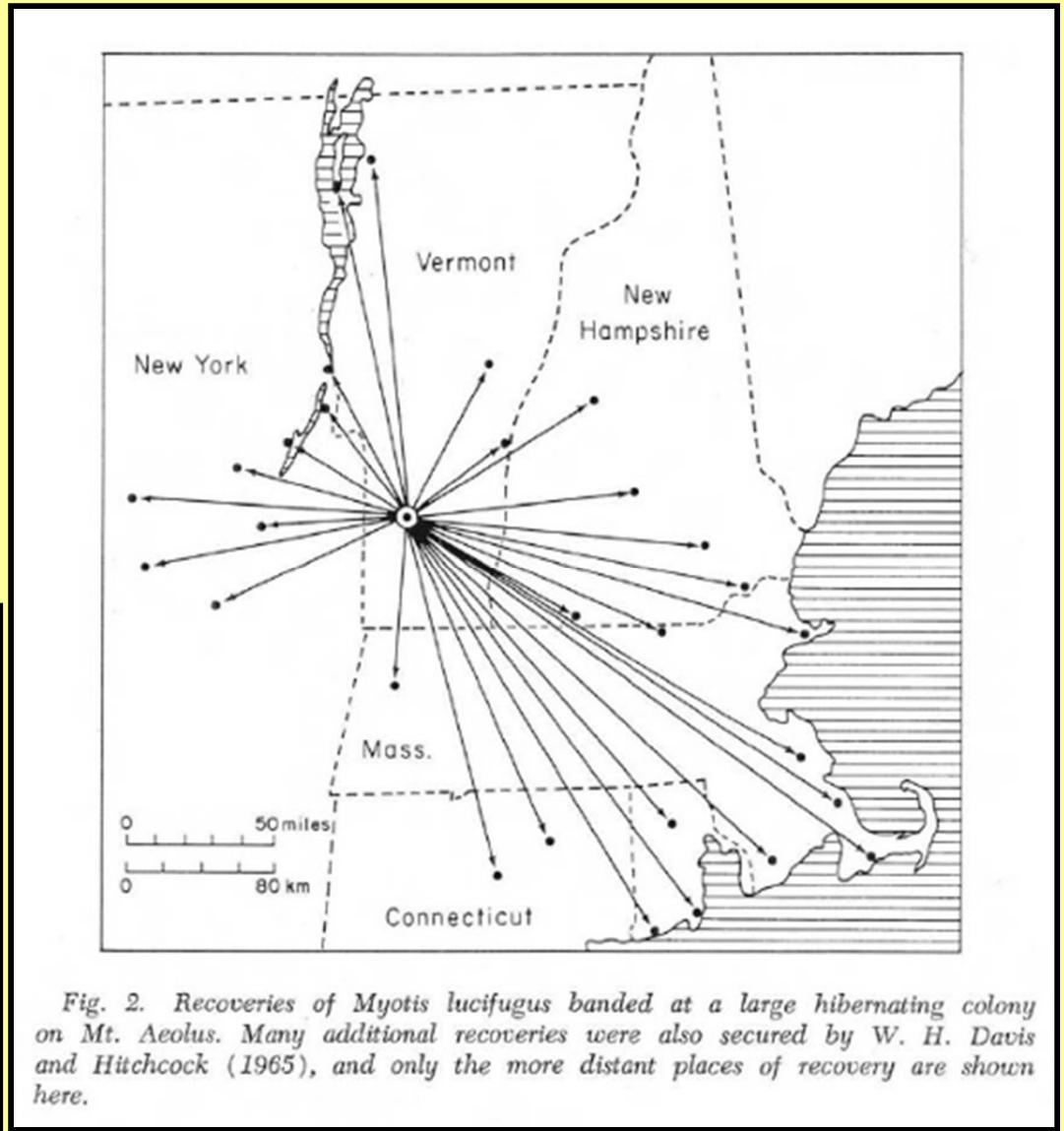


Fig. 2. Recoveries of *Myotis lucifugus* banded at a large hibernating colony on Mt. Aeolus. Many additional recoveries were also secured by W. H. Davis and Hitchcock (1965), and only the more distant places of recovery are shown here.

# More Questions Than Answers

Is it the fungus killing the bats?

- Investigation takes time
- Complex coordination needs
- Control presents biological and social challenges
- Two listed species  
vulnerable now
- Potential to impact  
25 of 40 N. Am. bat species



# VA State agencies working with Federal agencies and caving organizations on WNS

