

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.

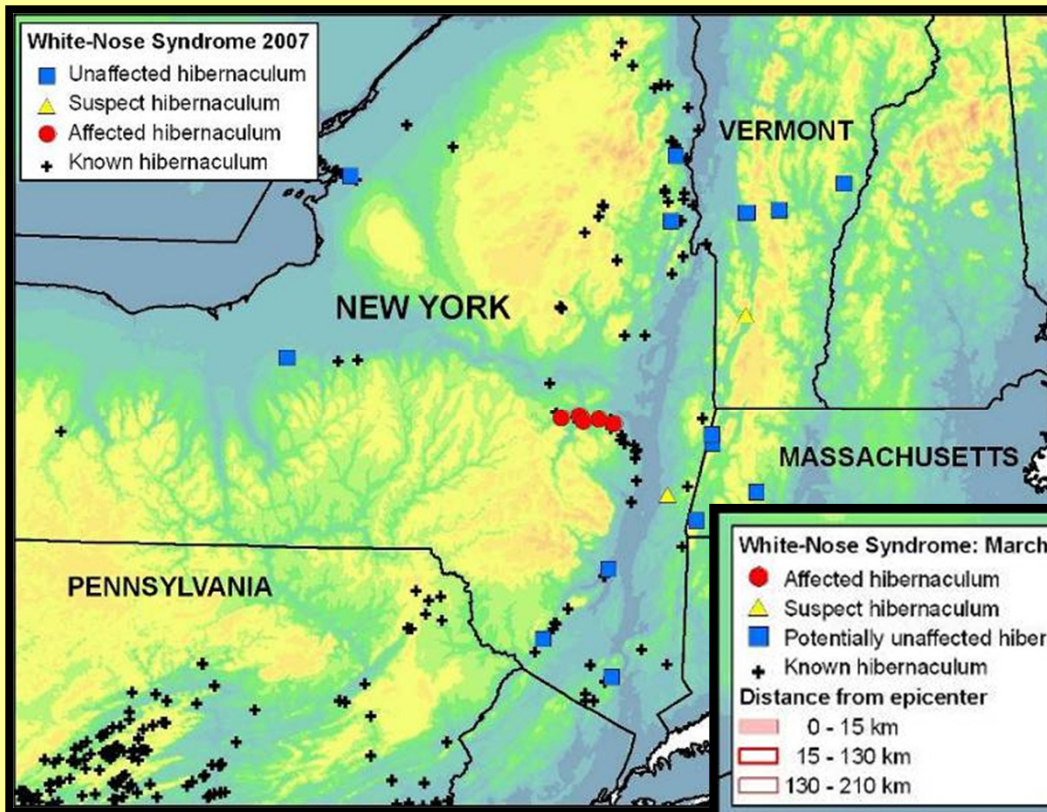
Those one million bats would have consumed just under 700,000 tons of insects each year.

(the weight of about 175,000 elephants.)

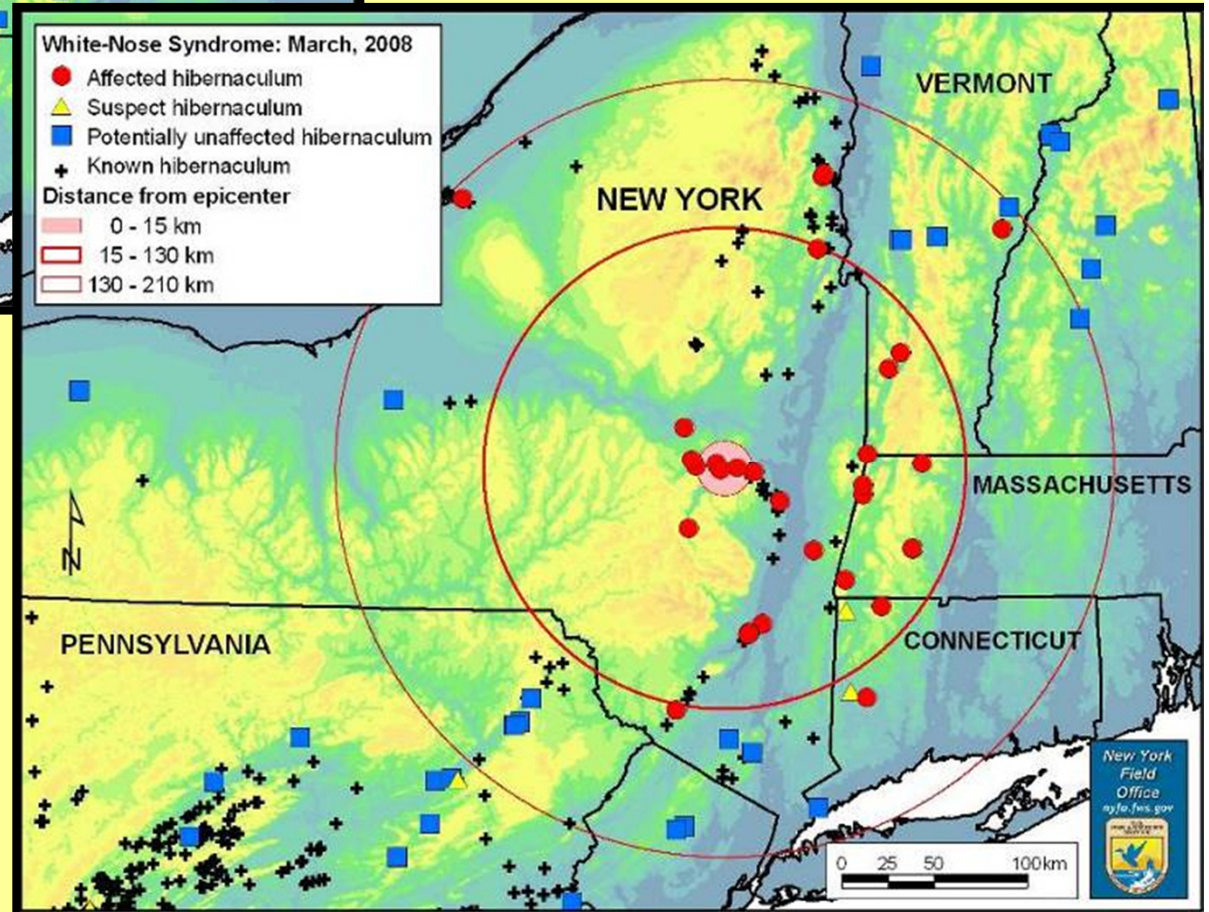


Dead bats in WNS Cave

2007 - 1 state,
4 sites



2008 - 4 states,
38 sites



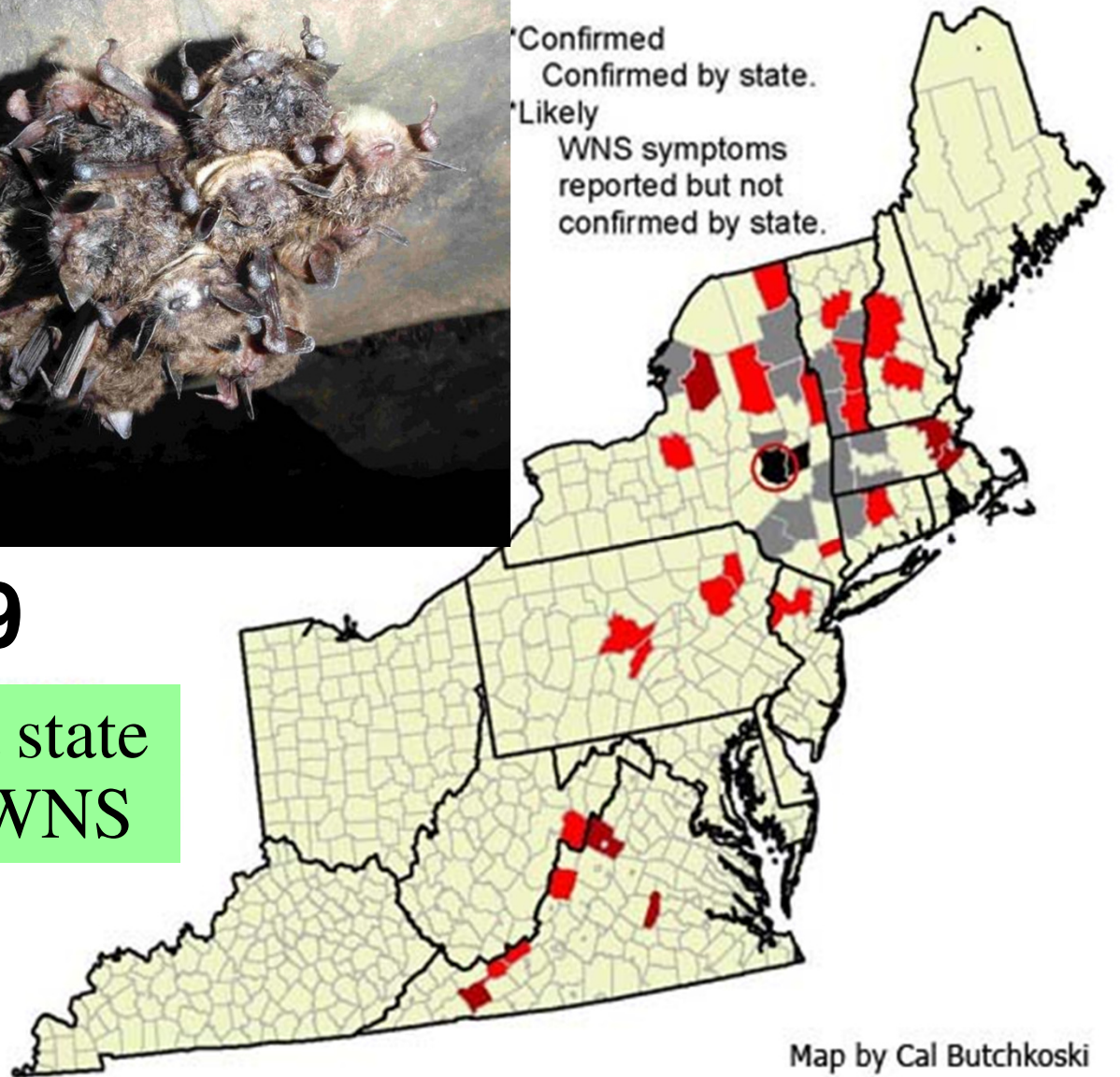
White Nose Syndrome Found in VA

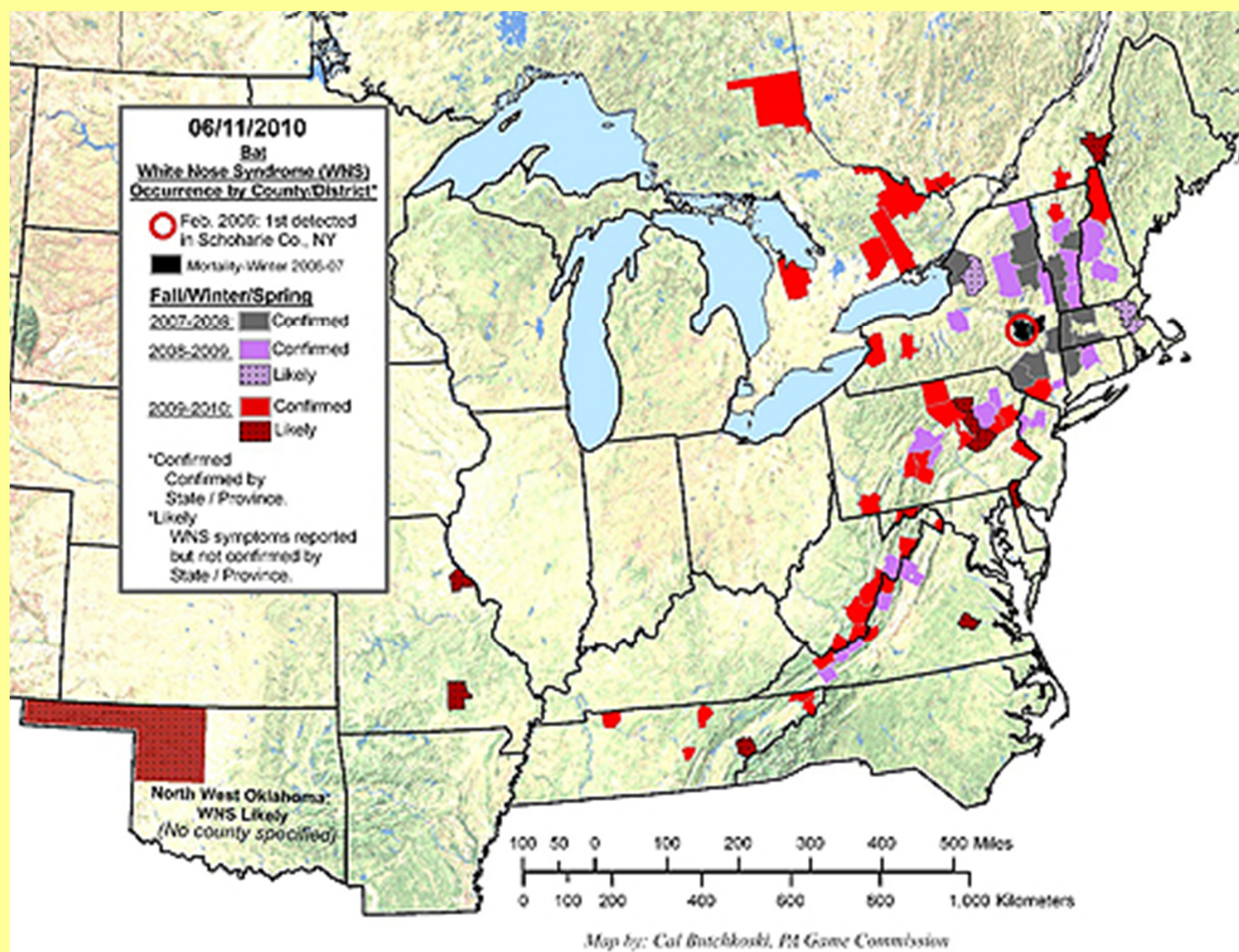


*Confirmed
Confirmed by state.
*Likely
WNS symptoms
reported but not
confirmed by state.

Feb. 25, 2009

The southernmost state
with confirmed WNS





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



Geomyces destructans found in *Myotis austroriparius* (Southeastern myotis)

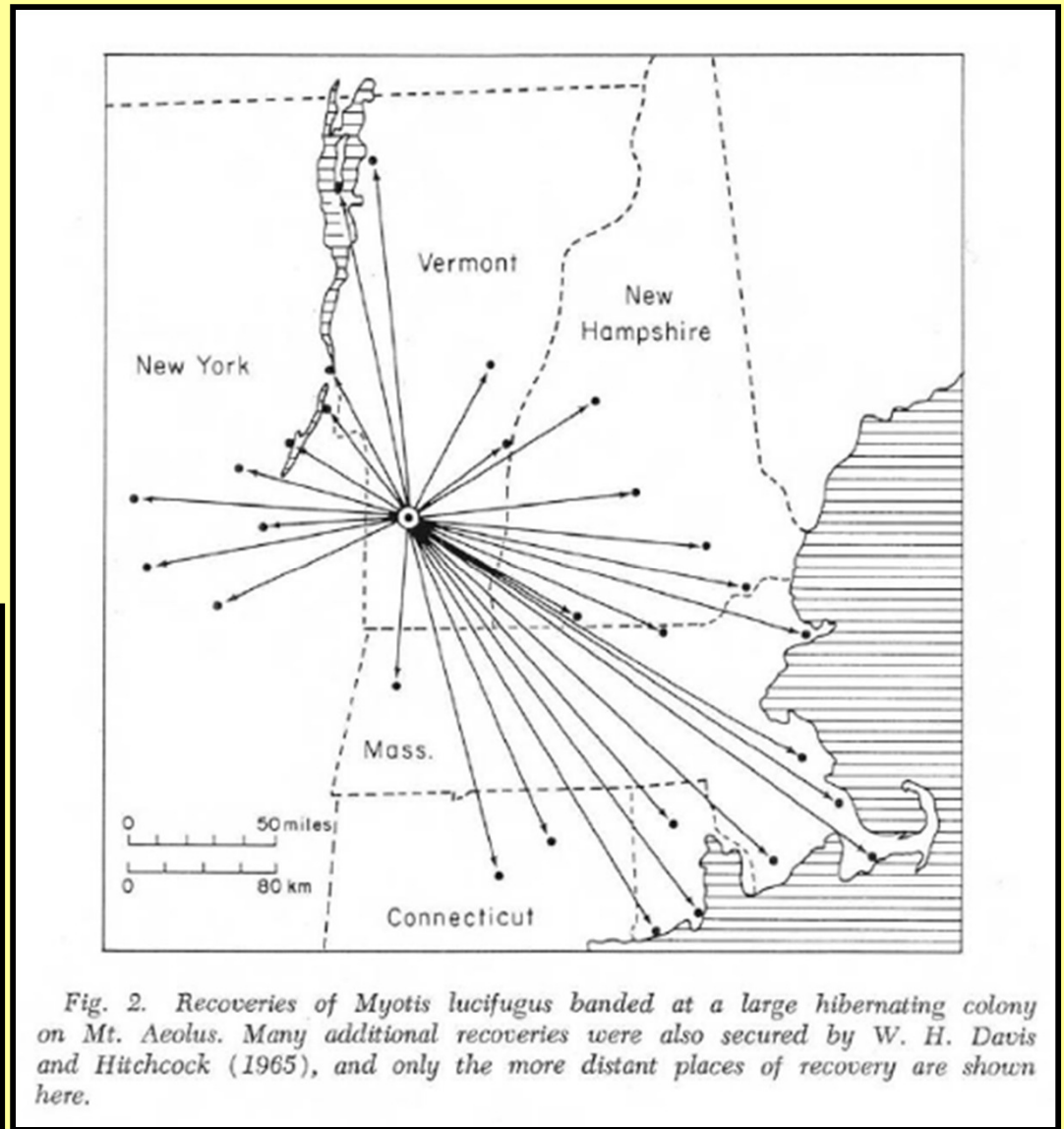
- Spring, 2010: near fall line in Virginia, far from cave hibernacula
- Southeastern myotis not known to hibernate in Virginia's caves
- Potential for spread to southern bat populations via interactions with WNS positive *M. austroriparius*
- May have indicated that WNS had already spread deeper into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

How is WNS Spread?

Bat-to-bat

May be spread by human activity

(FWS has requested a voluntary ban on caving)



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

