



Environmental
& Statistical
Consultants

Bats of Aitkin County

Tim Sichmeller

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What are bats?



Not flying mice

What are bats?

- Not all bats have rabies
- Only about 1% of bats have rabies
- Rabid bats will act sick and abnormal
- Never touch a bat without a thick glove
- Keep bats away from children

What are bats?



Not all vampires

Insectivores

- Bats save the agricultural community roughly \$3 billion dollars a year in pest control
- A single little brown bat, which has a body no bigger than an adult's thumb, can eat 4 to 8 grams (the weight of about a grape or two) of insects each night
- The loss of the one million bats in the Northeast has probably resulted in between 660 and 1320 metric tons of insects no longer being eaten each year by bats in the region



Bats of Aitkin County

- Tri-colored bat
- Big brown bat
- Silver-haired bat
- Eastern red bat
- Hoary bat
- Northern long-eared bat
- Little brown bat

Bats of Aitkin County



Tri-Colored Bat

Bats of Aitkin County

- Big Brown Bat



Bats of Aitkin County



Silver-haired Bat

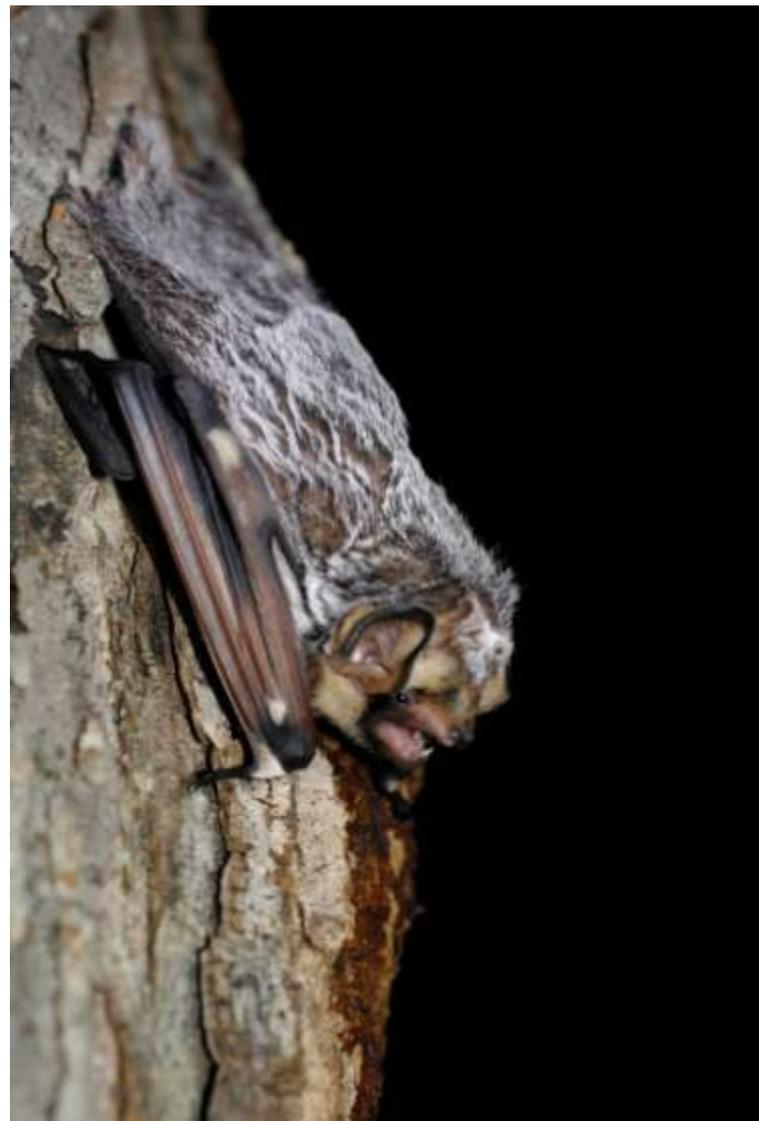
Bats of Aitkin County



Eastern Red Bat

Bats of Aitkin County

- Hoary Bat



Bats of Aitkin County



Northern Long-eared Bat

Bats of Aitkin County



- Little Brown Bat

Lifecycle of bat

- Fall
 - August 15 – November
 - Swarming and mating
 - Move towards hibernaculum
 - Last roost tree to swarming site around 20 miles away

Lifecycle of bat

- Winter
 - October – April
 - Move into hibernating locations
 - Typically caves and mines
 - 1 to 1,000's of bats together

Lifecycle of bat

- Spring
 - April 1 to May 14
 - Begin migrating to summer maternity sites
 - Can travel between 8 – 350 miles to maternity sites

Lifecycle of bat

- Summer
 - May 15 – August 15
 - Females form maternity colonies (30 – 60 bats)
 - Give birth and raise pups
 - Pups able to fly within 3 – 5 weeks
 - At the end of season maternity colonies will begin to disperse to head to fall swarming sites
 - NLEB forage and roost mainly in upland, mature forests with occasional foraging over forest clearings, water and along roads

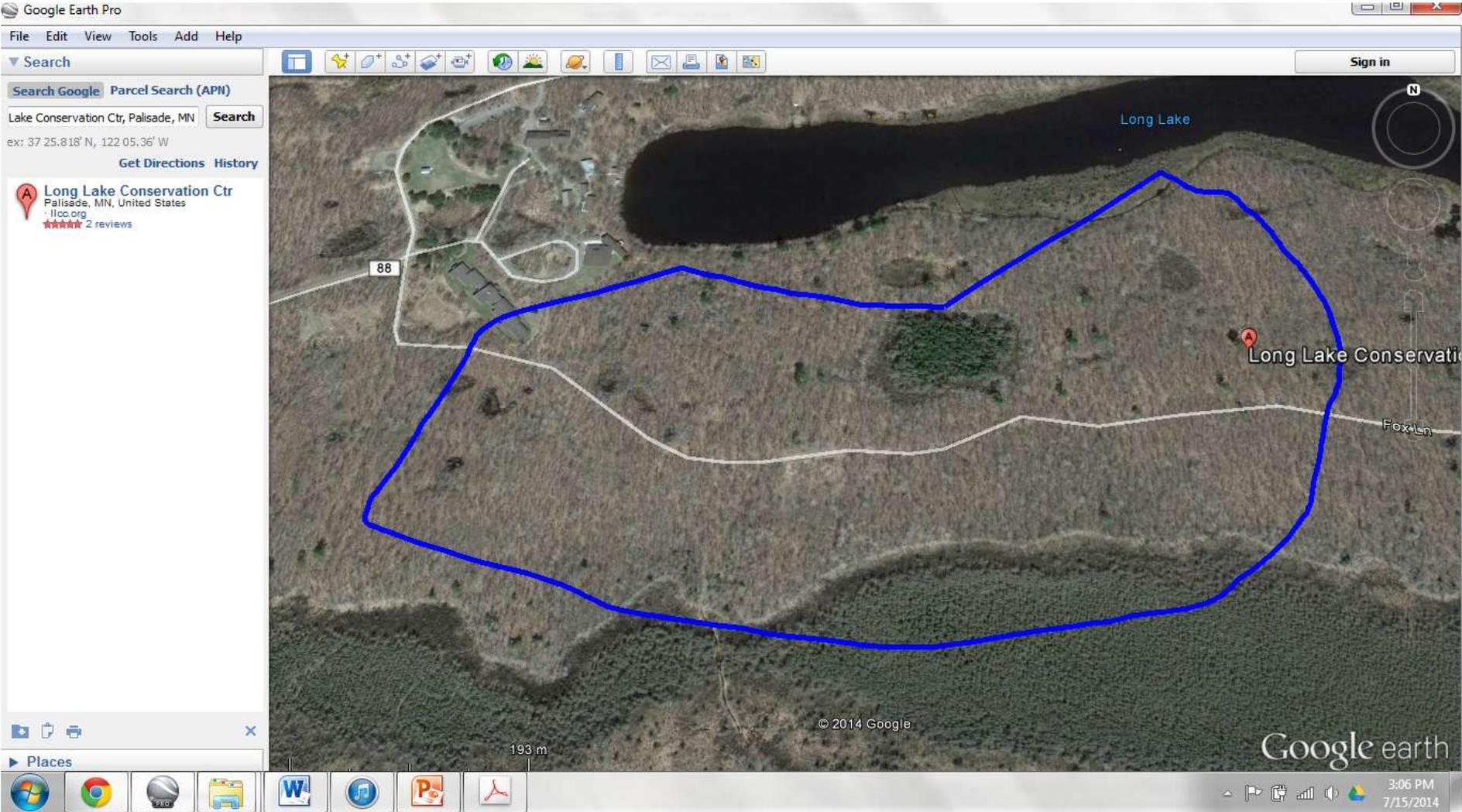
Survey Methods

- Fall swarm and migration
 - Use harp nets around known swarm sites and hibernaculum to get a census of species using the hibernaculum
- Winter hibernaculum
 - Full cave surveys to count and ID species present
 - Also check for presence of White Nose Syndrome (WNS)
- Spring migration
 - Again use harp nets to capture bats exiting the hibernaculum and attach transmitters to know direction and distance for spring migration

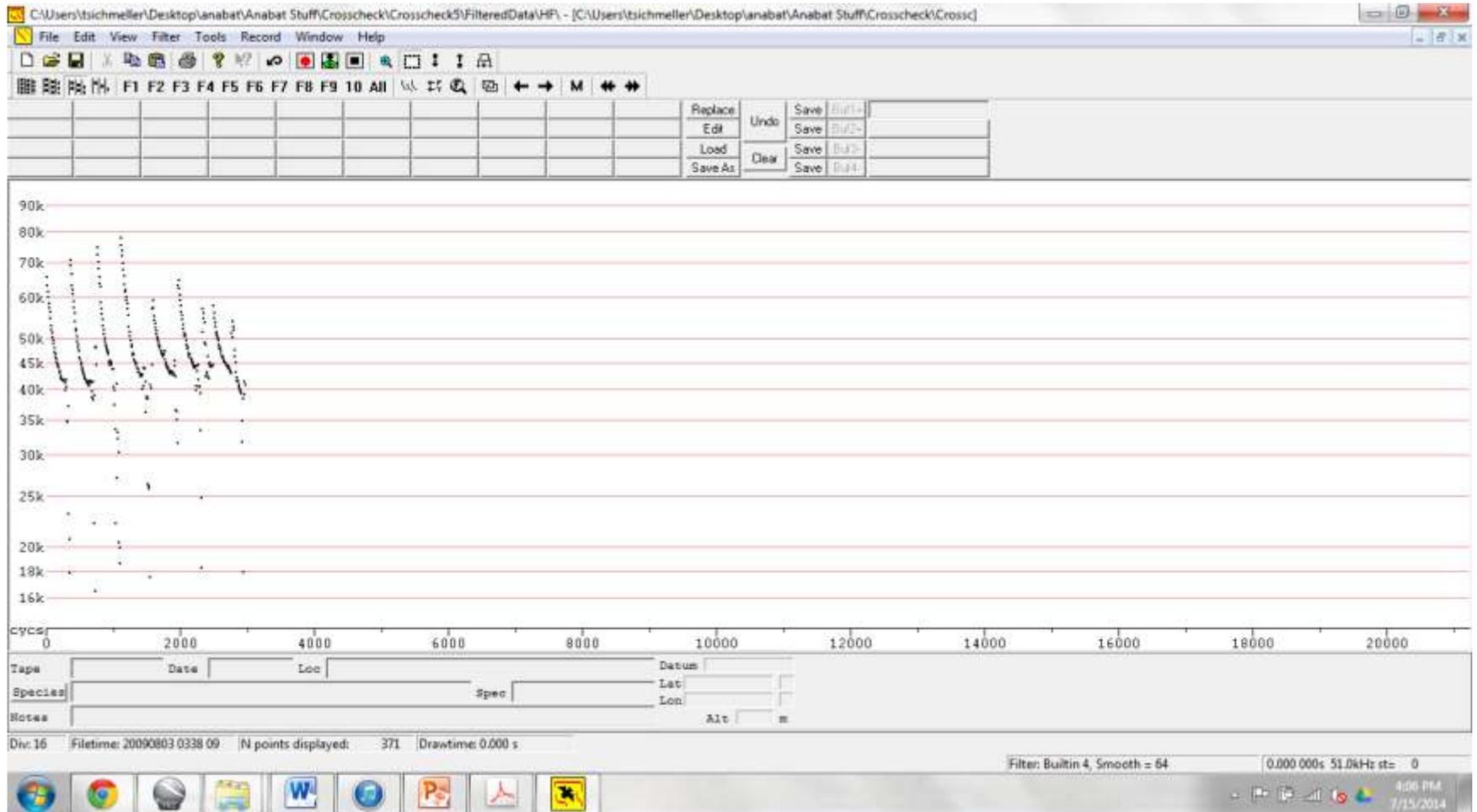
Survey methods

- Summer surveys
 - For NLEB and MYSO it is spelled out by USFWS
 - Surveys between May 15 and August 15
 - 1) Habitat assessment
 - 2) Acoustic surveys
 - 3) Mist-net surveys
 - 4) Radio telemetry

Summer Surveys



Summer Surveys



Summer Surveys



Summer Surveys



Summer Surveys

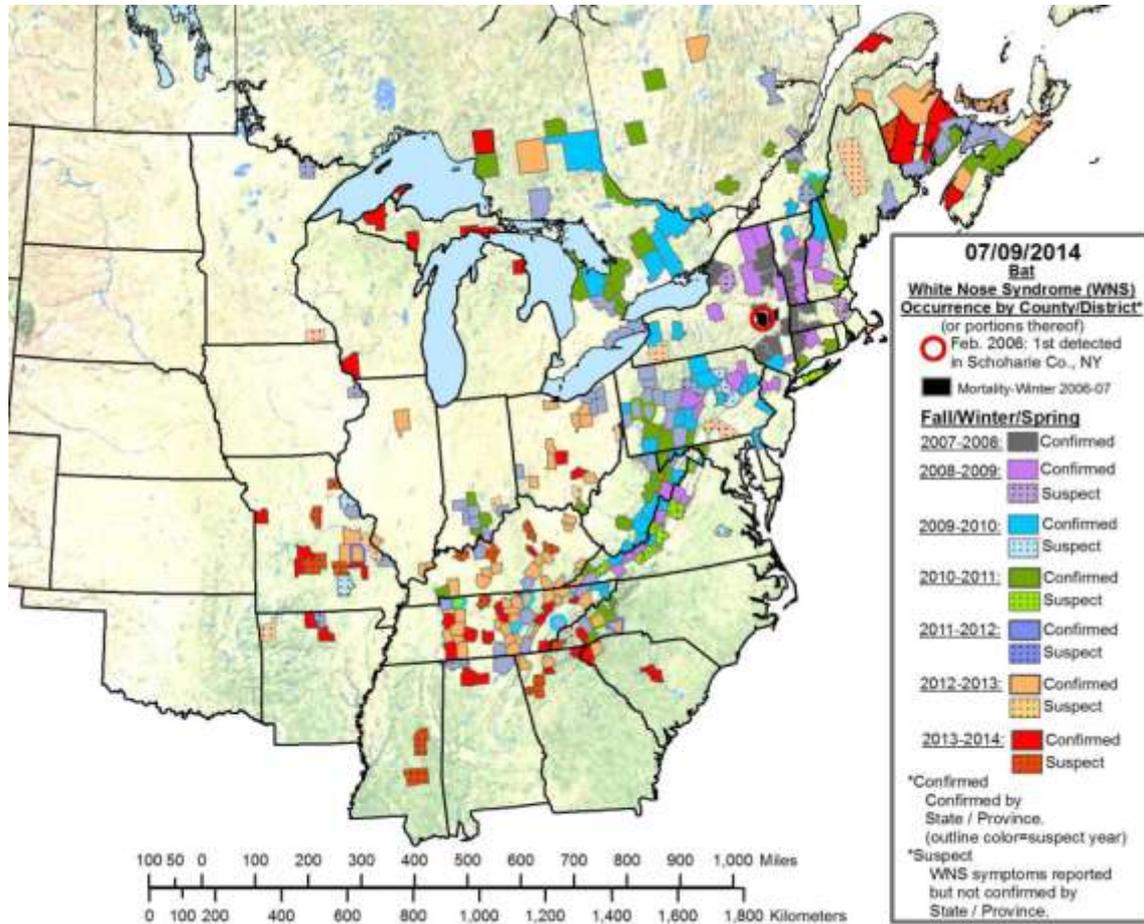


Threats to bats

- White Nose Syndrome (WNS)
 - Confirmed at Soudan Underground Mine State Park and Forestville/Mystery Cave State Park
 - Spreading west
 - WNS has killed more than 5.7 million bats in eastern North America.
 - In some hibernacula, 90 to 100 percent of bats have died



WNS



Map by: Lindsey Heffernan, PA Game Commission

Threats to bats

- Other threats
 - Wind turbines
 - Habitat loss
 - Hibernaculum disturbance

Bats of Aitkin County

- In 2014, bats are so far healthy
- Forest management has been effective for bats and other species
- Healthy bat habitat is healthy habitat for many other plants and animals
- Bats love Aitkin County



west-inc.com

Corporate Headquarters

415 West 17th Street, Suite 200, Cheyenne, WY 82001

307.634.1756