

Georgia Department of Natural Resources

SCCI Research Permit Report

**Covering data collected by GA DNR,
Contractors and Assistants for the Period of
2005 – 2015**



Jackie Beck and Trina Morris at Howard's Waterfall Cave Entrance in 2015.

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Summary

Biologists with the Georgia Department of Natural Resources (GA DNR) have been working with Southeastern Cave Conservancy, Inc. (SCCI) members for many years to complete inventory and conduct research. This work has been completed by GA DNR employees, subcontractors, university employees and students as well as volunteers and SCCI members.

In recent years, Trina Morris has been leading research related to White-Nose Syndrome (WNS) in winter and completing inventory at colonies in the summer. She has worked with SCCI and other cooperators to continue surveys that have been conducted over many years as well as to begin new survey efforts at sites affected by WNS.

This report will summarize the work completed from 2005-2015 at SCCI caves in Georgia. The GA DNR greatly appreciates the opportunity to work at these sites and hopes to continue to monitor bats at SCCI sites in the future.

White-nose Syndrome (WNS) Surveys

Since 2006, White-Nose Syndrome (WNS), a disease caused by an introduced fungus *Pseudogynascus destructans* (Pd), has been plaguing bats across North America. Beginning in New York, WNS has been spreading each year through the US and Canada. In 2013, the presence of Pd was confirmed in the state of Georgia. The very next year, bat numbers were down 36%. Biologists continue to survey the hibernacula these imperiled bat species inhabit and have noted drastic declines in most sites. This year, total bat numbers at sites surveyed across north Georgia are down 82% from previous winter counts.

The following are results and notes from surveys at two SCCI caves.

Date: April 3rd, 2013
Location: Howard's Waterfall Cave
County: Dade
WNS Positive: 2014

Surveyors
Kyle Oden
Jerry Wallace

Bats Observed
212 *Perimyotis subflavus* (tri-colored bat)

Date: March 17th, 2015
Location: Howard's Waterfall Cave
County: Dade
WNS Positive: 2014

Surveyors
Trina Morris
Pete Pattavina (USFWS)
Jackie Beck (GADNR)
Chris Coppola
Jerry Wallace

Bats Observed
134 *Perimyotis subflavus* (tri-colored bat)

Date: March 11th, 2015
Location: Howard's Waterfall Cave
County: Dade
WNS Positive: 2014

Surveyors
Trina Morris
Jackie Beck (GADNR)
Blake Ellett (Mulkey Engineers & Consultants)
Pete Pattavina (USFWS)

Bats Observed
53 *Perimyotis subflavus* (tri-colored bat)

Howard's Waterfall Cave has been sampled from 2013 to 2015, and only *Perimyotis subflavus* have been observed at this site. This cave was first sampled in April 3, 2013 by Jerry Wallace and Kyle Oden. The bat population at this time showed no signs of visible fungus. Numbers began to decrease in 2014, and 35% of all bats showed visible signs fungus. The presence of white-nose syndrome was confirmed at this site in 2014. In 2015, about 50% of all bats showed visible signs of WNS and overall there has been a 75% decline in bat numbers. Bat counts have decreased significantly over this time period dropping from 212 bats in 2013 to 53 bats in 2015. There were no dead bats at the site during any year it was surveyed.

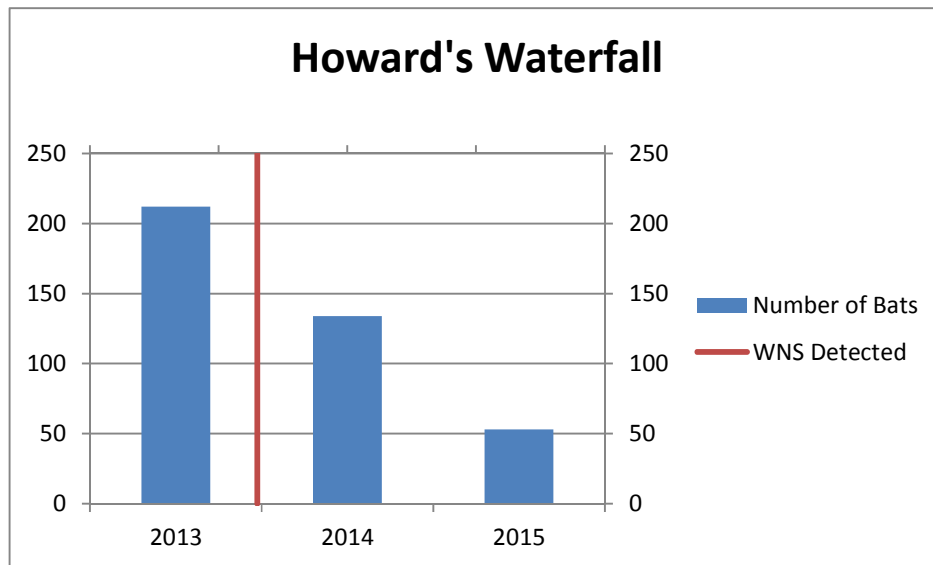


Figure 1. Bat Counts at Howard's Waterfall Cave from 2013 to 2015.



Tri-colored bat (*Perimyotis subflavus*) affected by WNS in Howard's Waterfall Cave, 2015.

Date: February 15th, 2014
Location: Frick's Cave
County: Walker
WNS Positive: 2014

Surveyors
Brad Barker
Alan Cressler

Bats Observed

1503 *Perimyotis subflavus* (tri-colored bat)
30 *Myotis grisescens* (gray bat)
4 *Eptesicus fuscus* (big brown bat)
9 *Myotis* spp. (Unknown *Myotis*)

Date: February 28th, 2015
Location: Frick's Cave
County: Walker
WNS Positive: 2014

Surveyors
Trina Morris
Pete Pattavina (USFWS)
Nikki Castleberry (GMNH)
Pete Pattavina (USFWS)

Bats Observed

1023 *Perimyotis subflavus* (tri-colored bat)
34 *Myotis grisescens* (gray bat)
6 *Eptesicus fuscus* (big brown bat)
3 *Myotis* spp. (Unknown *Myotis*)

Frick's Cave was first sampled in February 15, 2014 by Alan Cressler and Brad Barker. The presence of white-nose syndrome was confirmed in 2014. There was a 31% decrease in counts from 2014. About 75% of *Perimyotis subflavus* bats had visible fungus in 2015. There were 414 dead bats at the site this year which is a significant increase from last year which was only 6 dead bats.

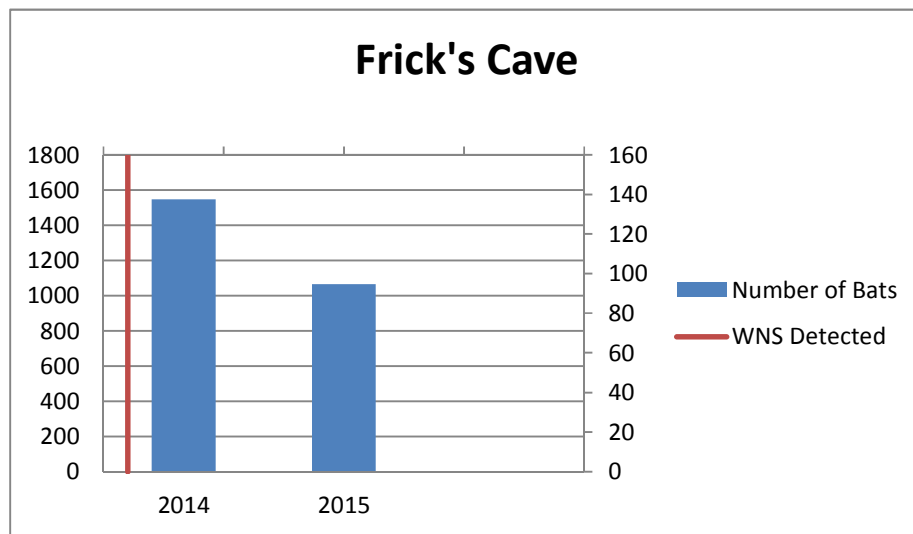


Figure 2. Bat Counts at Frick's Cave from 2014 and 2015.



Jerry Wallace, Jackie Beck, Pete Pattavina & Chris Coppola in Howards Waterfall Cave, 2014.

Frick's Cave Emergence Counts

Summer colony counts at Frick's Cave vary from year to year. This is expected because this site is primarily a gray bat (*Myotis grisescens*) bachelor colony. Also, the timing of surveys and different methods used over the years may have contributed to some variation in numbers. Even though counts are highly variable, it is still important to look at average numbers over time. This long-term data set will help us to make decisions about trends in numbers and conservation measures in the future.

On August 27, 2005 visual counts estimated 4,490 gray bats exiting the Frick's cave. In 2006, visual counts were made for both the main and skylight entrances. Visual counts of the main (lower) entrance estimated 551 bats while 7 bats were counted leaving the skylight (upper secondary entrance) for a total of 558 bats. In 2007, Frick's was monitored for three consecutive nights using both video cameras and visual counts from June 13-15, to assess nightly variation in numbers. Using visual counts the estimates for June 13th was 1,343, June 14th 1,128, and June 15th 2,228). Actual counts using the video camera yielded 2,631, 2,146, and 3,497 for the 3 nights, respectively. Total counts of bats leaving via the skylight entrance were 14 on June 13th and 13 on June 14th.

In 2008, Fricks Cave was sampled on three consecutive days (July 7-9). Colony size estimates were obtained for the first two days, but on July 9th sampling was halted due to bad weather. The visual counts yielded estimates of 3,762 and 3,140 bats emerging during the July 7 and July 8 observations respectively. In 2010, lights were positioned better rendering useable video colony estimates, which put colony size at 4,287.

The T3 software program was used to estimate bat emergence in 2012, with a result of between 5,054 and 6,667 bats.

The same software was used in 2013 and a total of between 3,275 and 4,275 bats was estimated.

In 2014, T3 estimated between 2,745 and 2,895 bats

Counts were completed in 2015, but have not yet been counted. These results will be reported in the 2016 research report.

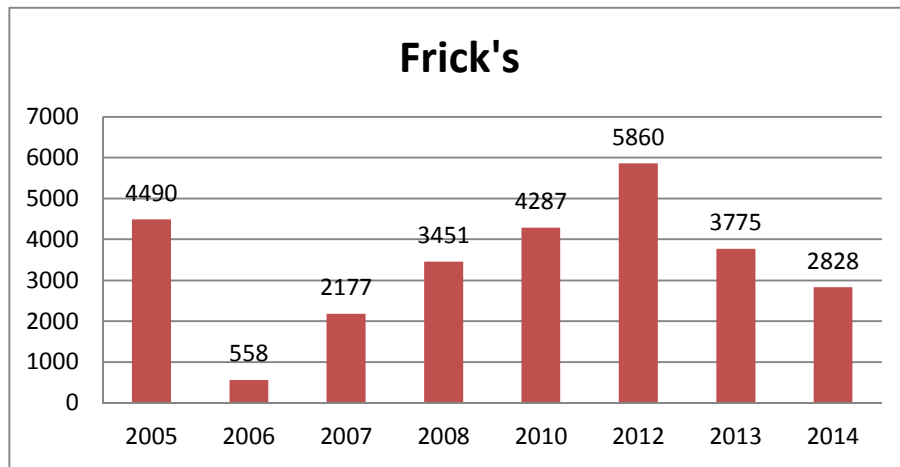


Figure 3. Average counts for emergence counts completed from 2005 to 2014.

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