

South Carolina White-nose Syndrome (WNS) Response Plan

Revised August 2011

This document applies to colonial cavity roosting bat species (all *Myotis*, *Perimyotis*, *Eptesicus*, *Corynorhinus*, *Nycticeius*, and *Tadarida*, with emphasis on *Corynorhinus*, *Myotis spp.*, *Perimyotis*, and *Eptesicus*). For an excellent summary of WNS and the threat to bats go to: <http://www.fort.usgs.gov/WNS/>

For updated nationwide WNS information [address will change soon] <http://www.fws.gov/whitenosesyndrome/>

- I. Cooperators. The mission of monitoring, survey, regulation and research cannot be met by a single entity. The response to WNS will require cooperation from government, NGOs and the private sector. Cooperators or partners include:
 - a. State Agencies: South Carolina Department of Natural Resources (SCDNR), South Carolina Department of Parks, Recreation and Tourism (SCPRT), South Carolina Army National Guard (SCARNG), South Carolina Department of Health and Environmental Control (SCDHEC), Southeastern Cooperative Wildlife Disease Study (SCWDS) (Kevin Keel), Clemson University (Greg Yarrow)
 - b. Federal: United States Fish and Wildlife Service (USFWS), United States Forest Service (USFS) (Southern Research Station and Francis Marion & Sumter National Forests), Department of Defense (DOD), National Wildlife Health Center (NWHC)
 - c. Universities: Furman (Travis Perry), Lander University (Austin Trousdale), South Carolina Upstate (Jonathon Storm)
 - d. NGOs: Upstate Forever, Some Nuisance Wildlife Control Operators (NWCOS), Bat Conservation International (BCI), etc.

- II Pre-WNS Baseline Passive and Active Monitoring/ Early Detection.
 - a. All NWCOS are recommended to incorporate applicable elements of the USFWS Disinfection Protocol for Bat Field Research/Monitoring (Appendix A), especially those companies which do work in other states. Applicable elements would be practices such as only using exclusion devices that are amenable to disinfection in South Carolina if they were used in affected states. [We can only make these as recommendations and provide information to NWCOS under current laws/regulations].
 - i. SCDNR shall send information (link to USFWS protocol and updates on WNS) to all NWCOS that are listed for bats on the most recent NWCO list
 - ii. Most NWCO's do not directly handle bats, but those personnel who handle individual bats during removal will be urged to reference the Reichard Wing Damage Index (WDI) and report to SCDNR any bats scoring a 2 or greater (Appendix B). Do not release any bat with extensive wing damage (Score of 3 or higher). SCDNR staff may

request those bats for submission to SCWDS in 2011 and 2012. The WDI is *not* a diagnostic tool.

- c. All Scientific Research permittees who work on bats in SC must score all bats with the Reichard Wing Damage Index (WDI) (Appendix B). WDI is *not* a diagnostic tool and it is not an effective indicator of WNS, especially in warmer months. Report all bats captured along with WDI score and location to SBDN (this information can be downloaded from SBDN to state agencies) at (http://www.sbdn.org/Bat_DB2006.html). Submissions can be made to Susan Loeb (sloeb@fs.fed.us). Document any bats scoring a 2 or higher on the WDI to SCDNR and/or USFWS. Data/material to be collected should include:
 - i. Photographing the wing damage and submit to SCDNR/USFWS (include date, location, animal identification number and species)
 - ii. Taking tissue or fluid samples from live animals, if requested from SCDNR or USFWS for submission to SCWDS-No requests in place currently
 - iii. Submission of dead bats from unusual die-offs not easily attributed to other obvious causes (such as poisoning, entrapment, etc) to SCWDS via SCDNR (with submission forms at: <http://www.uga.edu/scwds/diagnostic.htm>) or to NWHC and notify SCDNR
 - iv. If resources are available to you, consider using radio telemetry to track the bat.
- d. Soft equipment or any equipment that cannot be decontaminated cannot be used in South Carolina if it has been used in WNS affected states for bat or cave or mine work. This applies to everyone.
- e. **SCDNR biologists should collect bats from abnormal die-offs (5+ bats) in 2011 and 2012 and submit those bats to SCWDS (with submission forms at: <http://www.uga.edu/scwds/diagnostic.htm>) per the protocol in Appendix C (unless the die-off is from known causes other than WNS).**
- f. All Wildlife Rehabilitators which rehabilitate or transport bats are discouraged from doing so. If persons insist on rehabilitation efforts they are recommended to follow the following procedures:
 - i. Use the USFWS Disinfection Protocol (Appendix A) and isolate all colonial bats.
 - ii. Follow the Bat Rehabilitation Guidelines developed by USFWS and adapted for South Carolina. This will be posted as a link on the SCDNR WNS website. Some rehabilitators will be contacted directly with the guidelines created by (but not endorsed or discouraged by) the USFWS.
 - iii. Do not release any WNS positive bats as they may spread the fungus to unaffected healthy bats.
 - iv. Report unusual wing damage (reference Appendix B) and report any animals with a WDI of 2 or more to SBDN (but do not treat WDI as an indicator or diagnosis of WNS) (http://www.sbdn.org/Bat_DB2006.html) along with ID and location information.

- g. Acoustic baseline surveys (Others may be added)
 - v. Route in AP District of Sumter National Forest (started in 2009)
 - vi. Routes in Carolina Sandhills NWR, and Francis Marion NF
 - vii. Lake Jocassee and Keowee shoreline-selected sites [via Duke Energy contractor]
 - viii. Long Cane Dist route
 - ix. SRS
- h. Netting or sampling known sites particularly those along our northern border.
 - x. Walhalla Fish Hatchery
 - xi. Diane Mtn (this site checked twice by Aug 2011)
- i. SC DHEC routinely receives bats from across the state for rabies testing. Staff is requested to conduct WDI on bats if they don't save them for submission to SCWDS. **Bats which are not positive for rabies should be refrigerated or frozen for SCDNR and submitted to SCWDS.** SCDHEC will notify SCDNR if any bats w/ visible fungus are received (applies to winter months only).
- j. Continued IR video photography monitoring of some known roosts to detect dramatic declines.
- k. Winter surveys- Requires careful decontamination of gear per protocols.
 - i. Follow-up counts at Stumhouse Tunnel, etc
 - ii. New mine surveys and initial counts at sites without a vertical component (i.e. no rope work)
 - iii. Entrance counts at some known hibernacula.
 - iv. Use telemetry to locate hibernacula of known MYLU maternity colonies (fall 2011/2012).

II Management or Regulatory Actions – Pre-WNS

- a. Ban recreational caving and entry into any mines on SCNDR owned lands [SCDNR does not have regulatory authority over other state owned lands, even those under WMA].
- b. The USFS has issued an emergency order banning public entry or use of caves and mines. Notify SCDNR Law Enforcement [done].
- c. The USFWS Disinfection Protocol for Bat Field Research/Monitoring (Appendix A) must be used by all bat researchers in order to retain their SCDNR Scientific Research Permit.
- d. SCPRT prohibits recreational caving and staff entry to caves on their parks. No permits for caving are issued. SCDNR provided signage, "Entry Prohibited," for a major MYAU cave system.
- e. Private mines: SCDNR has mapped over 200 known or potential locations (part of a SWG project) most lack bat habitat. Most of the gold mine adits have some human entry (not always with landowner permission). Many of those mines have small numbers of PESU in the winter.
- f. The 2 best caves known by SCDNR are on SCPRT land and neither is well suited to gating. But better temperature data could be gathered for suitability to *Geomyces destructans*.

III Post-WNS

- a. Response to public sightings/dead bats-develop protocol
 - i. Equip or supply different field offices with appropriate decontamination and disposal protocol and supplies
 - ii. Develop a web-based report form for the public to report dead/dying bats [unlikely-DNR IT, requested USFWS to consider providing this]
 - iii. Ideally use a bat watch program similar to PA to get people to count bats exiting known roosts to measure population declines [This would require a set-up of a data file and an online reporting page for the public]
- b. Minimize nonrelated research that involves handling of bats, but continue acoustic surveys of same route(s) for rough population trends.
- c. Cooperate with other states, researchers in gathering samples or monitoring information as requested.
- d. Evaluate and consider various proposed treatment options as they develop, if necessary
- e. Monitor cave/mine roosts to evaluate survivorship preferably with the least amount of disturbance possible to minimize putting additional stress on the bats.

IV Education and Outreach (Pre and Post WNS)

- a. (Pre-WNS) Set up workshop for SCDNR staff and Cooperators [Done- see archived webinar at <https://connect.clemson.edu/p64123383/>].
- b. (Pre and Post)-Coordinate Press Releases with OSS to educate the public and update elected officials
- c. Create an informational SCDNR webpage [done 2010] or at least create link to USFWS WNS information page. Visit: <http://www.dnr.sc.gov/wildlife/batswns.html>
- d. For Pre WNS it would be useful to inform public to report unusual die-offs to their regional wildlife biologists for submission for testing.
- e. Post WNS-Response to Public Sightings/dead bats-develop protocol
 - i. Equip or supply different field offices with appropriate decontamination and disposal protocol and supplies
 - ii. Develop a web-based report form for the public to report dead/dying bats? [DNR is having difficulty with this]

<p>Evaluate and Follow USFWS Guidelines for Containment</p>
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<p>http://www.fws.gov/whitenosesyndrome/pdf/WNSnationalplanMay2011.pdf</p>
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APPENDIX A

http://www.fws.gov/whitenosesyndrome/pdf/WNSDecontaminationProtocol_v012511.pdf

APPENDIX B

http://www.fws.gov/northeast/PDF/Reichard_Scarring%20index%20bat%20wings.pdf

APPENDIX C

NWHC pdf document: FINAL_NWHC Bat summer subm prtcl 09.pdf

Sent to DNR WFF staff. Bats are to be submitted to SCWDS instead, following the same handling protocol, don't ship on Fridays.