

NORTHEAST REGIONAL CONSERVATION NEED GRANT QUARTERLY REPORT

Grant Number: 2007-09

Grant Title: Exploring the Connection Between Arousal Patterns in Hibernating Bats and White Nose Syndrome: Immediate Funding Needs for the Northeast Region

Grant Receipt: Bucknell University

Grant Contact Name: DeeAnn M. Reeder, Department of Biology

Report #- 3rd quarter

Were planned goals/objectives achieved last quarter? For the quarter, yes. This project has moved from the preparatory phase to the data collection phase. RF transmitters (95) and dataloggers (90) were deployed at a total of 10 field sites throughout the northeast between October 31, 2008 and December 3, 2008. The seven transmitter sites have been visited every 7-14 days to download data and replace receiver batteries. Arousal and torpor patterns are in the process of being analyzed. The three datalogger sites have been left alone – and will not be disturbed for data collection until March, 2009.

Regional Conservation Need Addressed: Due to the recent emergence of this situation (White Nose Syndrome in bats), it has not yet been included as an RCN topic for the typical nomination and ranking process. Due to the severity of its potential impacts on these species, members of NEAFWA in April 2008 elevated this topic to become an immediate RCN and directed available funds for a project to be chosen by experts at a WNS meeting to be convened in June 2008.

Progress Achieved: (For each Goal/Objective, list Planned and Actual Accomplishments)

The objective of this project is to determine if the hibernating patterns of bats are disrupted (which could lead to starvation) by monitoring little brown bats at affected sites, suspected sites, and control sites during 2008-2009. Bat and hibernacula monitoring activities will include collecting:

- 1) temperature and arousal data associated with the hibernating patterns of little brown bats using WeeTag dataloggers;
- 2) a second source of temperature and arousal data using RF transmitters;
- 3) temperature and humidity data at various sites within each selected research site; and
- 4) morphological data on bats as they enter and exit the hibernacula

Planned and Actual Accomplishments:

- 1) Alphamach failed to deliver WeeTag dataloggers. As an alternative, Reeder lab loaned the project 90 ibbat temperature-sensitive dataloggers. These were deployed at three sites (a WNS site [VT], a potential WNS site [PA], and a control site [MI]). At each site, 15 ibbats were attached to females, and 15 to males.
- 2) RF transmitters were attached to 95 bats at 7 different sites (60 acquired via this funding source, 35 from separate funds). Data have been downloaded regularly and are in the process of being analyzed. Nearly all RF sites have now gone silent – only a few transmitters have sufficient battery life to be still sending data.
- 3) Several ibuttons have been deployed at each site to track temperatures; it was determined that humidity dataloggers are not reliable – and have not been used at all sites
- 4) Morphological data were collected on all study bats at the beginning of the study.

Difficulties Encountered: AlphaMach Inc. failed to produce any WeeTag dataloggers. Reeder lab loaned the project 90 ibBat dataloggers to get the study started (see above). Reeder lab, in conjunction with Greg Turner, PAGC has created ‘homemade’ dataloggers by dehousing and repackaging ibuttons – technology may be

deployed next quarter in the field.

Activities Anticipated Next Quarter: A second set of RF transmitters will be deployed at each of the 7 RF sites between late January and early February. Individual state participants will continue to visit these sites periodically to download data and replace batteries (which are expected to last ~ 6 weeks). Ibuttons and ibbats should continue to collect data, which will be retrieved in March, 2009. Reeder and others will continue to coordinate the project (including weekly conference calls), calibrate transmitters and dataloggers etc.

Costs:

Are you within the approved budget plan? yes

Are you within approved budget categories? yes

Signature:

A handwritten signature in black ink, appearing to read "Debra M. Reed". The signature is fluid and cursive, with a long horizontal stroke at the end.

Date: 1/15/2009