

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 #- 4th quarter

Were planned goals/objectives achieved last quarter? For the quarter, yes. During this quarter the project was in the data collection phase. RF transmitters (95) and dataloggers (136) were deployed at a total of 13 field sites throughout the northeast between January 15, 2009 and February 7, 2009. The seven transmitter sites were visited every 7-14 days to download data and replace receiver batteries. Near the end of March, 2009, sites were visited for a final time and all dataloggers (if found) were retrieved (47 ibbats, 56 custom dataloggers). Less than 10 RF transmitters were relocated. Relocation of these units was not necessary as data from the RF transmitters were collected remotely, but those found can be refurbished by Holohil to be used again in the field. Arousal and torpor patterns are in the process of being analyzed. A preliminary report of the results of this study was given at the February 2009 White Nose Syndrome "Webinar".

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. In January of 2009, 136 'homemade' temperature sensitive dataloggers were made in the Reeder lab and deployed in the field.
- 2) RF transmitters were attached to 95 bats at 7 different sites (60 acquired via this funding source, 35 from separate funds) during the fall and again in January 2009. Data have been downloaded regularly and are in the process of being analyzed.
- 3) 2-4 ibuttons were deployed at each site to track temperatures; these have been retrieved from all sites and are in the process of being analyzed.
- 4) Morphological data were collected on all study bats at the beginning of the study and the end of the study.

Difficulties Encountered: AlphaMach Inc. continued to fail 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 (BUTTs: "Bucknell University Temperature Trackers") by dehousing and repackaging ibuttons – 136 of these were deployed at field sites in 3 states.

Activities Anticipated Next Quarter: Reeder and others will continue to coordinate the project, analyze data etc. The goal is for a manuscript to be submitted by early to mid summer, 2009. Plans for possible follow-up studies next winter will be made.

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 "Dana M. Reeder". The signature is fluid and cursive, with a long horizontal stroke at the end.

Date: 4/15/2009