

**NEW ENGLAND TRANSPORTATION CONSORTIUM
QUARTERLY PROJECT PROGRESS REPORT**

A. PROJECT NUMBER AND TITLE: NETC 15-1, Use of Forested Habitat Adjacent to Highways by Northern Long-Eared Bats

B. PRINCIPAL INVESTIGATORS & UNIVERSITIES:

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C. WEBSITE ADDRESS: fozlab.weebly.com

D. START DATE: 12/1/2016

E. END DATE: 11/30/2018

F. ANTICIPATED COMPLETION DATE: 11/30/2018

G. PROJECT OBJECTIVES: Our overall objective addresses several major gaps in the knowledge of Northern long-eared bat (NLEB; *Myotis septentrionalis*) distributions and activity as they relate to the use of highway habitat in New England.

The research objectives will be achieved by accomplishing 8 tasks:

- Task 1. Literature review on NLEB habitat requirements and effects of anthropogenic disturbance, focusing on the effects of roadways.
- Task 2. Develop a “Zone of Influence” matrix for highway induced stressors.
- Task 3. Compile existing data on NLEB and other rare bat species distributions.
- Task 4. Request presence/absence data from State Depts of Transportation and other sources.
- Task 5. Determine land cover (habitat) being used or not used by NLEB.
- Task 6. Determine data gathering needs to improve model inference.
- Task 7. Identify data gaps in sampling of NLEB in specific habitats that may require additional data collection on presence/absence.
- Task 8. Develop screening tool and GIS model that would show zones of influence around highways.

H. REPORT PERIOD: January–March 2018

I. ACCOMPLISHMENTS THIS PERIOD:

-Data from all states and current sources has been received and incorporated into the database of occurrence/detections (Task 3 and 4)

–Species distribution models have been run with only road density being a significant variable affecting NLEB presence. NLEB presence decreases with increasing road density. Near significant variables include total forest coverage (positive relationship) and distance to water (negative relationship).

J. PROBLEMS ENCOUNTERED: None.

K. TECHNOLOGY TRANSFER ACTIVITIES: None

L. STATUS BY TASK:

Task 1. NLEB Literature review:	100%
Task 2. Develop a Zone of Influence matrix:	100%
Task 3. Compile NLEB distribution data:	100%
Task 4. Request presence/absence data:	100%
Task 5. Determine NLEB land cover use:	60%
Task 6. Determine additional data needs:	100%
Task 7. Identify presence/absence data gaps:	50%
Task 8. Develop GIS screening tool:	20%

M. PERCENT COMPLETION OF TOTAL PROJECT: 60 %

N. ACTIVITIES PLANNED FOR NEXT QUARTER:

- Further develop code for novel modeling methods and GIS model for zone of influence (Task 5, 7, and 8)
- Test alternate statistical methods for effect of roads on NLEB presence (Task 5 and 8)
- Prepare and submit abstract for Northeastern Transportation and Wildlife Conference presentation, UMass-Amherst. Amherst, MA. September 9-12, 2018.

O. FINANCIAL STATUS:

As of: March 31, 2018

Total Project Budget: \$ 164,970

Total Expenditures: \$ 98,982