April 13, 2016

INVITATION TO SUBMIT A RESEARCH PROPOSAL

The New England Transportation Consortium (NETC) invites proposals for the following research projects:

NETC 15-1: “Use of Forested Habitat Adjacent to Highways by Northern Long Ear Bats”

Please distribute this RFP to faculty/researchers who may be interested.

The New England Transportation Consortium is a cooperative effort of the Departments of Transportation and the Land Grant Universities of the six New England States. Through the Consortium, the states pool their professional, academic, and financial resources for transportation research leading to the development of improved methods for dealing with high priority problems associated with the administration, planning, design, construction, rehabilitation, reconstruction, operation and maintenance of the region's transportation system. For more information on NETC, visit our web site:

http://www.uvm.edu/~transctr/?Page=netc/netc_default.php

This Request For Proposals is being sent to each of the six New England State Land Grant Universities. Collaboration among the universities is encouraged. Proposals should be based on the project's Scope of Work (see Attached) and be prepared in the format shown in the Proposal Preparation Guidelines (see Attached).
One (1) original hard copy and a CD containing the proposal in ADOBE™ PDF should be returned to the NETC Coordinator, at the following address, so as to be received no later than May 27, 2016:

Glenn McRae
New England Transportation Consortium Coordinator
University of Vermont - Transportation Research Center
210 Colchester Avenue
Burlington, VT  05405

Proposals will be reviewed and evaluated by the Project Technical Committee that developed the Scope of Work (see Attached). The committee will recommend a proposal, to the NETC Advisory Committee, for funding. The schedule for completing the selection process is also attached.

Questions concerning technical aspects of the Scope of Work should be directed to the Chairperson of the appropriate Project Technical Committee (see Attached).

Questions concerning administrative matters relating to this RFP should be directed to Laurie Eddy, NETC Coordinator (Tel: 802-656-7722 / Email: netc@uvm.edu).

Sincerely,

Glenn McRae
New England Transportation Consortium Coordinator

Attachments:
- Project Scope of Work
- Proposal Preparation Guidelines
- Proposal Evaluation Guidelines
- Schedule for Processing the Proposal
- Technical Committee Chairpersons
NETC: 15-1
NEW ENGLAND TRANSPORTATION CONSORTIUM
SCOPE OF WORK

NETC PROJECT:  NETC 15-1 Use of Forested Habitat Adjacent to Highways by Northern Long Ear Bats (and Other Bats)

Problem title:  Use of Forested Habitat Adjacent to Highways by Northern Long Ear Bats.

Research problem statement:
On April 2, 2015 the Northern Long-Eared Bats (Myotis septentrionalis)(NLEB) was listed on the Federal endangered species list as Threatened in 38 states. The states range from Maine through the southeast including all of the New England. Hibernacula survey data indicate NLEB have declined as much as 90 percent since 2006. The decline in population may influence detectability of bats and so traditional sampling techniques would not be practical.

Given that sampling efficacy on low population numbers is unknown, USFWS is conservative and, without presence/absence surveys, considers the species present and all suitable trees as potential roosting habitat. This can prevent or delay project clearing and disrupt project schedules. With this approach, there would be many suitable roost trees within transportation right of ways, yet it is not well known whether highway traffic effects such as noise, canopy opening, and other physical effects affect bat use of roadside habitat. Because some impacts to NLEB individuals are assessed on their roost use and predator prey interaction, having better information on other stressors to use of roadside habitat such as road noise and physical disturbances may be important as Departments of Transportation plan infrastructure project scopes and schedules.

This project would investigate bat use of a variety of habitats adjacent to highways with varying levels of traffic volumes (and thereby varying traffic noise or other physical disturbance) to determine if there are any traffic volume thresholds that would be likely to discourage use by the Northern Long-eared Bat, or any other bat species such as Eastern small-footed bat (Myotis leibii) and tricolored bat (Perimyotis subflavus) potentially proposed for listing under the ESA.

The project would require the comparison of published or measured sound frequencies used by Northern Long-eared Bat, or any other bat species potentially proposed for listing under the ESA and potential for interference by the frequency and sound energy created by highway noise.

Research objectives:
The project objectives would be to develop a matrix of disturbance features (sound frequencies and volumes, canopy width, etc.) and an assessment of a barrier effect that would affect foraging and roosting behavior of Northern Long-Eared Bat colonies.
and other potential listed species. There would be a screening tool and GIS model that would show zones of influence around highways that have noise and disturbance levels that would result in unlikely bat utilization in adjacent habitats. The screening tool could be GIS-linked. It would link with other geocoded information, and databases, and satellite imagery, that could be updated by future researchers if needed be as more information is collected.

**Principle Tasks:** Provide clearly defined tasks, as well as clearly defined deliverables at the task level. The proposal should include deliverable(s) at the conclusion of every major task. The deliverables should incorporate a summary of the data collected, a presentation on progress to the Technical Committee, and an interim report for review.

Task 1- Expanded literature search- This should consist of expanding what has been used in the proposal to include various aspects of the study.

Task 1-a Summary of habitat requirements for NLEB and other rare bats that may be listed. This would include habitat size requirements, habitat matrices and level of interspersion. Researchers will need to review the sizes of small of linear habitats as corridors. It is realized that in this USFWS Region, information collection is a new and ongoing effort.

Task 1-b Summary of studies that may show what the effects of noise, air quality, water quality, wind, physical disturbance, and others may have on NLEB and other target bats. Include any studies that may indicate if bats habituate to these stressors. It is realized that in this USFWS Region, information collection is a new and ongoing effort.

Task 2-a Develop a list of potential stressors created by highway adjacency. Do a literature search of these potential stressors similar to the stressor included in the Rangewide Programmatic Consultation for Indiana and Northern Long ear bats. This should include studies of noise levels generated by certain traffic volumes or vehicle mixes, noise attenuation, air and water pollution generated by highways and potentially any traffic generated wind that may exceed 9 MPH.

Task 2-b Develop a “Zone of Influence” matrix for highway induced stressors. It is not yet known how much background data on this has been collected in this USFWS region.

Task 3 For species presence/occurrence purposes, create a summary of current existing information generated by known data gathering and research efforts being done by State Fish and wildlife agencies, university researches, USFWS, and NETC 14-2 "Bats and Bridges”.

Task 4 Request presence/absence data from State Departments of Transportation and other sources to analyze the intercepts of the data and habitat type or ecoregion
Task 5  Based on the Habitat types used or not used by bats, determine best land cover database that would cover New England and adjacent areas. Can certain habitat use be ruled out?

Task 6  Determine any data gathering needs that would further the intent of the RFP. This study should use bat survey data collected by states as part of the analysis, but is not intended to be a regional inventory or database of known bat foraging, roosting, or overwintering sites.

Task 7  Identify any areas or habitats where there are data gaps that may require the collection of Presence/Absence data as part of this effort. The Technical Committee will review and approve any P/A sampling efforts.

Task 8  Develop screening tool and GIS model that would show zones of influence around highways that have noise and disturbance levels that would result in unlikely bat utilization in adjacent habitats. The screening tool could be GIS-linked. It would link with other geocoded information, and databases, and satellite imagery, such as Google Earth.

MEETINGS WITH PROJECT TECHNICAL COMMITTEE: The proposal should provide for a minimum of four (4) meetings with the Technical Committee that has been established to monitor the progress of the project. The Technical Committee meetings will include a Kick-Off meeting at the start of the project, as well as meetings at the conclusion of every major task. Annually, the Principal Investigator will make presentations to the Technical Committee and the NETC Advisory Committee. These presentations can be conducted remotely using a webinar application.

REPORTS: The Principal Investigator will be required to prepare and distribute the following reports:

Post-Task Reports: One (1) copy prepared and e-mailed to the NETC Coordinator, after each Task is completed. Report should include documentation of the Research Project to date (completed Task) and the proposed next steps (proposed Task). The report should arrive no later than ten (10) working days after the scheduled end date for the proposed Task. The Coordinator will forward copies to the Project Technical Committee. The Post-Task Report deliverables must also be included in the Schedule of Major Activities which is required for all proposal submissions. Please see the Proposal Preparation Guidelines for more information.

Quarterly Progress Reports: One (1) copy prepared and e-mailed to the NETC Coordinator, on a calendar quarter basis, so as to arrive no later than three (3) working days after the end of the calendar quarter. The Coordinator will forward copies to the Project Technical Committee.

Draft Final Report: Seven (7) copies of the Draft Final Report will be prepared and distributed to the members of the Project Technical Committee for review prior to printing of the Final Report. Principal Investigators should allow ninety (90) days, in the Project
Schedule, for completion of the review of the Draft Final Report including resolution of the Project Technical Committee’s comments and receipt of approval from the Project Technical Committee Chairperson to submit the Final Report to the NETC Coordinator.

**Final Report:** Upon receipt of approval from the Chairperson of the Project Technical Committee to submit the Final Report to the NETC Coordinator, the PI will submit the following: a paper copy and a CD containing the report in ADOBE™ PDF. Upon submittal of the Final Report to the NETC Coordinator, Principal Investigators should allow thirty days in the project schedule for completion of the Coordinator’s review. Following this review, the Coordinator will provide the PI with NETC report covers and backs and instruct the PI to print seventy-five (75) copies of the Final Report.

**TECHNOLOGY TRANSFER STRATEGY:** NETC recognizes that research results are not automatically put into practice upon completion of the research and publication of the final report. Effective implementation is more likely when researchers and user agencies collaborate to plan for implementation. Therefore, NETC requires that all research proposals for NETC funded research include an implementation plan and technology transfer strategy for incorporating the research results/products into practice. The implementation plan should be drafted by the PI in the final report, and should indicate the type of activities (workshops, demonstrations, etc.) that would be considered the most effective means for disseminating the results of the study to potential users. The PI will then need to work closely with the Technical Committee members to tailor the implementation plan to each DOT with a one page summary of the tasks and schedule of activities that should be carried out by the Technical Committee after the research project is complete. Additionally, the NETC requires that each project include a Tech Transfer Toolbox as a deliverable. The toolbox will include a one page fact sheet, a project poster, and a recording of a project presentation. Implementation of the research results should be viewed as a priority in the scope of work.

**Funds Available:** $ 165,000

**Time to Complete:** 24 months (including preparation and review of final report). The time to complete should be limited when feasible. If the scope of work dictates a lengthy project duration, consider proposing a multi-phased project.

**Deviation from the Scope of Work:** In the event that the proposer deems it necessary to deviate from the Scope of Work (Cost, Principal Tasks, Time to Complete, etc.) in order to accomplish the objectives of the research project, such deviation should be noted and the reasons clearly stated in the proposal.
NEW ENGLAND TRANSPORTATION CONSORTIUM
PROPOSAL PREPARATION GUIDELINES

The proposal should be a well thought-out document that establishes in clear, concise terms the necessity of the research undertaking, definite project objectives, and a systematic work plan designed to attain the project objectives. The proposal should contain, but is not limited to, the following:

1. **Project Identification:** The project number, title and name or names of the principal investigator(s) [P.I.(s)]. Resumes of the principal investigator(s), including a description of the P.I.'s related research and publications, should be included as an appendix to the proposal.

2. **Significance of the Problem:** A clear definitive statement of the problem and its significance.

3. **Objectives of the Research:** In clear, concise terms, state the objectives of the proposed work.

4. **Methodology:** A description of the major tasks that will be undertaken to complete the proposed work. A number and title should be assigned to each task followed by a description of the methodology to be used in carrying out the task.

   *NOTE: Since the NETC recognizes that research results are not automatically put into practice upon completion of the research and that implementation is more likely when researchers and user agencies collaborate to plan for implementation) NETC requires that all research proposals include a technology transfer and implementation plan for incorporating the research results/products into practice.*

5. **Schedule of Major Activities:** To allow for flexibility in the project start date, the schedule should be generic and not refer to particular months or a particular year. The schedule should show, in terms of elapsed time (number of months or weeks) from the start of the project, the planned start and completion of each of the major tasks described in the methodology and the following tasks:
   - **Submission of Quarterly Progress Report to Coordinator:** Quarterly Progress reports are to be submitted electronically to the NETC Coordinator for distribution to the Project Technical Committee no later than three (3) working days after the end of each calendar quarter.
   - **Submission of Draft Final Report to Project Technical Committee for Review:** Sixty (60) days are to be allowed for completion of the review of the Draft Final Report and resolution of review comments.
   - **Preparation of Final Report:** Ninety (90) days following completion of the review of the Draft Final Report are to be allowed for preparation of the final report and submittal to the NETC Coordinator.

6. **Budget and Total Cost:** If the cost of the proposal exceeds the "Funds Available", as given in the Scope of Work, an explanation should be provided. In the event that this proposal is selected for funding, the proposal budget will be incorporated into the funding agreement. Invoices for project costs will be reviewed against the proposal budget for consistency. Therefore, it is the responsibility of the Principal Investigator to insure that the proposal's budget categories are consistent with the categories that will be used for invoicing project costs. Principal Investigators are encouraged to break their costs down into lump sum invoices that correspond to major task deliverables, with the final report delivery constituting 20% of the total project budget.
NEW ENGLAND TRANSPORTATION CONSORTIUM
PROPOSAL EVALUATION GUIDELINES

1. **Understanding of the Problem**: A clear and succinct statement and understanding of the problem and the research objectives is desired. A review of the present state-of-the-art and a description of how the proposed work will create new knowledge and benefit the New England Transportation Consortium should be presented.

2. **Research Approach**: The evaluation of the research approach will consider consistency with the objectives and the scientific and practical aspects of the research methodology. This evaluation will include such items as the approach to data collection, cooperative features, innovative concepts, and reliability of equipment proposed for use. Consideration will also be given to whether or not the approach is sufficiently detailed, both in terms of work and budget allocations by tasks.

3. **Application of Results**: The evaluation will include a realistic appraisal of the prospects for successful accomplishment of project objectives. The evaluation will consider the statements in the proposal indicating the manner in which the anticipated results would be reported and how they could be used to improve transportation engineering or transportation evaluation practices; e.g., mathematical models, design techniques, field or laboratory test procedures, changes in highway specifications, impact methodologies, etc. Consideration will also be given to whether or not there might be any financial or institutional barriers to implementation of products from the research.

4. **Qualifications of Principal Investigator(s)**: Proposals are desired from individuals having demonstrated capability and expertise in the subject problem area. The evaluation will be based on the evidence contained in the proposal pertaining to both the experience and the indicated amount of effort by the principal investigator(s).

5. **Facilities and Equipment**: The evaluation will be based on the evidence contained in the proposal. It is important to consider whether facilities and equipment are actually available or are proposed to be purchased or built. The proposal budget often provides some insight into this situation.
NEW ENGLAND TRANSPORTATION CONSORTIUM
PROPOSAL EVALUATION GUIDELINES
(Cont’d)
Analysis Sheet

PROJECT TITLE:

PRINCIPAL INVESTIGATOR(S):

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<th>COMMENTS</th>
<th>WEIGHT x RATING</th>
<th>WEIGHTED RATING</th>
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<tbody>
<tr>
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<td>2. Research Approach:</td>
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<td>3. Application of Results:</td>
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<td>4. Qualifications of Principal Investigator(s):</td>
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<td>5. Facilities and Equipment:</td>
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TOTAL WEIGHTED RATING

NOTES:

1. Weight: To be assigned by the Project Technical Committee. The total of the five weights must equal 100%.

2. Ratings: ‘Outstanding’ = 5
   ‘Very Good’ = 4
   ‘Good’ = 3
   ‘Fair’ = 2
   ‘Poor’ = 1

3. Each Technical Committee member will rank the proposals ‘1st’, ‘2nd’, ‘3rd’, etc., based on the TOTAL WEIGHTED RATING they assigned to the proposal. The PI with the most ‘1st’ rankings from all of the Technical Committee members will be selected.
<table>
<thead>
<tr>
<th>ITEM</th>
<th>COMPLETION DATE</th>
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<tr>
<td>Deadline for Questions about the Scope of Work</td>
<td>May 13, 2016</td>
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<tr>
<td>Deadline for Coordinator's receipt of proposals</td>
<td>May 27, 2016</td>
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<tr>
<td>Coordinator forwards proposals to Project Technical Committees for evaluation</td>
<td>May 31, 2016</td>
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<tr>
<td>Deadline for Coordinator's receipt of Project Technical Committees' evaluation of proposals and recommendation of award</td>
<td>June 27, 2016</td>
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<tr>
<td>NETC Coordinator forwards Project Technical Committees' recommendations of award to NETC Advisory Committee for action</td>
<td>July 2016</td>
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<tr>
<td>NETC Coordinator notifies Principal Investigators and Project Technical Committees of NETC Advisory Committee's action on award of funding and initiates preparation of the project agreement</td>
<td>August 2016</td>
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<td>Target date for start of project</td>
<td>October 2016</td>
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NETC TECHNICAL COMMITTEE CHAIRPERSON

NETC 15-1:
Richard Bostwick
Maine DOT
16 State House Station
Augusta, ME
04333-0016
207-592-3904   FAX 207-624-3099
richard.bostwick@maine.gov