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LOI-2023-1

United States Department of the Interior

NATIONAL PARK SERVICE
Northeast Regional Office
1234 Market Street, 20th Floor
Philadelphia, PA 19107



Request for Letters of Research Interest (LOI)

Project Title: Deer Population Estimation for Northeastern National Parks

Background

The northeast region of the National Park Service (NPS) has proposed an ambitious effort to improve forest resilience and prepare for the effects of climate change by addressing forest regeneration debt ([Miller et al. 2023](#)) in 17 northeastern and mid-Atlantic parks. If funded through the Inflation Reduction Act, this initiative will include environmental assessments and implementation of management action to increase tree regeneration in park forests. An important component of the effort will be evaluating current park-level efforts to estimate deer population size and developing a consistent regional approach for long-term deer monitoring.

Several parks in the northeast region are using road-based spotlight surveys or game cameras to collect data on deer populations, along with multiple approaches to analyze these data. Additional parks are prepared to begin collecting data as part of the broader forest resilience initiative. The parks need assistance determining appropriate monitoring methods and sampling designs, initial data analysis, and guidance on analyzing the data long-term. In addition, recent changes in the NPS policy regarding Unmanned Aircraft Systems (UAS) makes it more feasible to monitor deer using new methods like Forward-Looking Infrared (FLIR).

Objectives and Products

The specific objectives to be addressed with this project are:

- Review existing park-based monitoring efforts to identify commonalities and differences.
- Review and analyze data from park-based spotlight and camera surveys, to be published as an NPS technical report and/or a peer-reviewed journal article. NPS staff will assist with obtaining data sets and with photo-interpretation.
- Assess available deer monitoring options and identify the pros and cons of each. Recommend viable approach(es) for the 13 northeast region parks that are part of the project, and provide guidelines for assessing additional parks.
- Develop a regional deer population monitoring protocol. This document will include:
 - Goals and objectives for deer population monitoring (developed with NPS staff assistance)
 - An overview of monitoring approaches and the state of the science for deer population monitoring
 - Guidelines for determining an appropriate monitoring approach (incorporating the assessment of deer monitoring options, above) and sampling design
 - Implementation costs for the different methods
 - Field survey methods
 - Data analysis procedures, including well-documented statistical code
- Implement deer monitoring protocol. Work with participating parks to develop site specific implementation plans and data collection procedures. Guide field activities and

review and analyze resultant data. Incorporate feedback and lessons learned from the implementation and revise protocol as appropriate.

- A Federal Financial Report and Project Performance Report is required annually. These reports are due by December 31 of each year and cover the previous government fiscal year (October 1 through September 30).
- Final Federal Financial Report and Project Performance Report, due within four months of project completion.

Project Timeline

Funding decisions for a start in FY 2023 will be announced by mid-April. If this project is approved, funds will be obligated by September 30, 2023. If the project is not approved for FY 2023, it will be competed for a start in FY 2024, and funds would be obligated in spring 2024. Regardless of the start date, the project is expected to take two years.

Funds Available

The northeast region has requested \$250,000 for this project; this includes the CESU overhead rate of 17.5%. Non-federal partners within the North Atlantic Coast CESU, Chesapeake Watershed CESU, and Great Lakes-Northern Forest CESU networks with a current NPS master cooperative agreement are eligible to apply.

Materials Requested for Letters of Interest

Letters of interest (limit 4 pages) must include:

1. Name, Organization and Contact Information
2. Pre-Proposal: Description of the proposed approach for conducting the project, including any additional data or monitoring methods that could be considered for this project. Describe your anticipated approach to analyzing deer population monitoring data.
3. Draft budget
4. Brief Statement of Qualifications (including):
 - a. Biographical Sketch(s) for key personnel (faculty, staff), including a description of discipline(s) of expertise. Curriculum vitas can be submitted as an attachment.
 - b. Relevant past research projects.

Evaluation Letters of Interest

Based on a review of the Letters of Interest received, and contingent on funding, an investigator will be invited to prepare a full study proposal, schedule, and detailed budget. Letters will be evaluated based on the following criteria and scoring:

1. Soundness and validity of the proposed approach for meeting project objectives (15 points maximum)
2. Demonstrated experience with deer population estimation (10 points maximum)
3. Demonstrated ability to produce technical reports within schedule and budget and demonstrated record of professional publications (5 points maximum)

Contact

Direct questions and letters of interest to Brian Mitchell, brian_mitchell@nps.gov, 401-625-9406. During the weeks of April 3 and April 17, questions can also be addressed to Matt Marshall, matt_marshall@nps.gov, 814-863-0134. The deadline for responding to this request for LOI is April 25, 2022.