NJDEP Research and Monitoring Initiative: Project Fact Sheet

Proposal for Expansion of New Jersey's Motus Wildlife Tracking System to Inform Baseline Avian and Bat Population Movements Near Offshore Wind Energy Areas

Research Motivation

The objective of this project is to expand the Motus tracking network in New Jersey to increase sensor coverage and data collection for radio-tagged birds and bats. Data collected by these stations will be shared openly with researchers to meet multiple objectives. This project will support future tagging efforts with the goal of understanding preconstruction bird and bat movements, as well as wildlife responses to offshore wind developments in New Jersey and regionally.

Principal Investigators and Institutions

Lead Institution: American Bird Conservancy (ABC)
Dr. Adam D. Smith and Todd Alleger
U.S. Fish and Wildlife Service (USFWS)
Dr. Pamela Loring
Biodiversity Research Institute (BRI)
Dr. Evan M. Adams, Andrew Gilbert, and Kate Williams
Ocean Tech Services (OTS)
Stephen O'Malley, Carl Johnsen, and Benjamin Riker
Willistown Conservation Trust (WCT)/Northeast Motus Collaboration
Lisa Kiziuk, Alison Fetterman, and Aaron Coolman

RMI Research Priorities Addresses

- (4) Determine the baseline distribution of birds and their migratory movements through satellite tag technology, Motus, and GPS.
- (5) Update the population data and interaction of bats in proposed sites for offshore wind development.
- (6) Examine the extent of bat activity offshore using Motus technology

Geographic Scope

This project will proceed in the NJ inland Coastal Plain region, spanning from the Delaware River to the Island Beach State Park shore, and offshore locations running approximately 32 miles east off the NJ coast to the edge of the wind lease areas.

Methods or Approaches Used

- Up to 20 receivers at land-based stations and offshore buoys will be deployed to optimize detection coverage based on intensive site assessment, detection modeling, GIS spatial analysis, and discussion with landowners, lease holders, and managers.
- Land-calibration and ocean protocols will be developed and revised. Experiments on extensive detection range will be conducted.

Expected Outcomes or Deliverables

- A final report including a completed station map, station metadata, maintenance plans and budgets, offshore and terrestrial station calibration protocols, station detection ranges and influences, and a summary of the detections at each Motus station to date.
- Quarterly Performance and Financial Reports, Health and Safety Plan, Quality Assurance Project Plan, and Final Study Plan. There will be communication regarding the deployment and operations, as well as maintenance within said reports.

Regional Coordination / Collaboration / Data Sharing

- This project involves collaboration between the state, ABC, NSFWS, BRI, OTS, and WTC agencies. There will also be collaboration with public and private landowners where necessary.
- The data collected is immediately made public via the Motus webpage to support the research community.

Project Completion Date: September 2025
Total Project Budget: $1,300,077