



NJDEP Research and Monitoring Initiative: Project Fact Sheet

Acoustic Telemetry, an innovative, non-extractive approach for monitoring protected, prohibited, and commercially/recreationally important species within a major migratory corridor through Wind Lease Areas and cable landing sites along the NJ coast

Research Motivation

- The purpose of this study is to use non-extractive acoustic telemetry to gain baseline information on the spatial/temporal habitat use, movements, residency patterns, and relative abundances of federally protected, prohibited, and commercially and recreationally important species within areas of interest for New Jersey.

Principal Investigators and Institutions

- Dr. Keith Dunton – Monmouth University (Lead Principle Investigator)
- Dr. Jason Adolf – Monmouth University (Co- Principle Investigator)
- Dr. Jeff Kneebone – New England Aquarium (Co- Principle Investigator)
- Dr. Michael Frisk – Stony Brook University (Project Collaborator)

RMI Research Priorities Addresses

- #7 Examining the effects of OSW on the distribution/connectivity of fish and invertebrate species and communities (e.g., acoustic tags for horseshoe crabs or species with obligate migration paths)
- #14 Develop and implement methods to assess impact of OSW on recreational fisheries.
- #12 Adapt DEP trawl survey design to allow for comparison of biases/limitations in and outside of OSW development areas and calibrate new time series

Geographic Scope

- The proposed RMI acoustic array system consists of five components to investigate the presence/absence of tagged species, spatial/temporal migratory movements, and residencies of acoustically tagged animals in the cable landing areas and the wind lease areas. The five acoustic telemetry arrays include monitoring of two cable landing areas, inshore wind array (Atlantic Shores and Ocean Wind), cross-shelf gradient in inshore wind area, and an offshore array (covering the offshore lease areas) in order to maximize monitoring while achieving a rigorous design in data collecting baseline information to determine species' use, behavior, and distributions of these areas pre-construction

Methods or Approaches Used

- Using, acoustic telemetry, which is a proven non-extractive methodology, we will track and delineate spatial/temporal habitat use of marine organism and provides invaluable data on species abundance and behaviors.
- Acoustic receivers will passively record (24/7 continuous monitoring) the presence/absence/relative abundance, of acoustic tagged animals.
- Telemetry data will provide information on the relative abundance, movements, residency, and behavior of teleost and elasmobranch species allowing inside and outside of key OSW areas including lease sites and cable landings.

Expected Outcomes or Deliverables

- Detailed detection histories of tagged species including the presence/residency and movements for each species throughout the proposed receiver arrays including the wind lease areas and cable landings.

Regional Coordination / Collaboration / Data Sharing

- Detection data from receivers installed in this project will add to existing regional infrastructure from other research agencies and allow us to develop multi-state and multi-agency collaboration while engaging in a regional standardized monitoring framework.

Project Completion Date: June 2025

Total Project Budget: \$1,898,705