

Increasing the Utility of Acoustic Telemetry Data for Project-Scale and Regional Decision Making



Smithsonian
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HOW THE STUDY WORKS

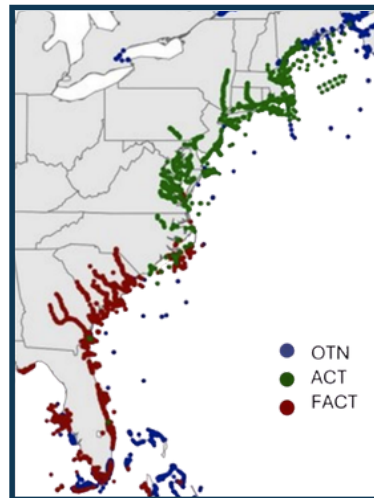
- Work with stakeholders to identify key migratory species that can be tracked using acoustic telemetry.
- Use movement models to reconstruct animal tracks to maximize the space between receivers and minimize acoustic receiver deployments.
- Identify the most efficient locations for acoustic receivers by augmenting existing modeling framework.
- Determine the most efficient, cost-effective receiver locations and communicate recommendations to stakeholders.

OUTCOMES

- Allow acoustic receivers to detect impacts beyond the project footprint scale, inform designs for regional and cumulative impact assessments, and estimate costs associated with implementation.
- Make better use of the information gained from acoustic telemetry data.
- Minimize mobile gear interactions by reducing equipment in the ocean.

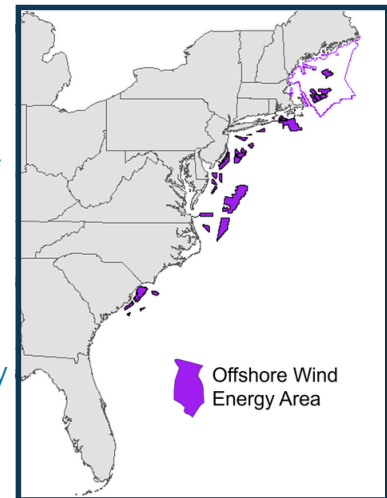
PROJECT OVERVIEW

Regional acoustic telemetry expands the space over which animals can be tracked using tags and receivers. This project aims to increase the efficiency of acoustic telemetry across the U.S. Atlantic Continental Shelf. By simulating animal tracks and leveraging movement models, this research will determine the best places to put the fewest receivers to enhance coverage in the region, increasing the utility of acoustic telemetry and minimizing potential mobile gear interactions. The project will generate recommendations for efficient receiver array designs to support large-scale environmental impact assessments for migrating fishes, sharks, and sea turtles.



Current acoustic receiver array on the U.S. East Coast (left).

Active and planned offshore wind energy areas on the U.S. East Coast (right)



PROJECT GOALS

- Provide full coverage to monitor how offshore energy impacts key species across the U.S. Atlantic Continental Shelf.
- Weigh costs and benefits to identify efficient locations for acoustic receivers to minimize equipment in the water.
- Increase the capacity of acoustic telemetry to produce usable data for assessments and decision making.
- Balance needs for regional cumulative impact assessments, costs of deployment, maintenance, and conflicts between research equipment and fishing activities.

WHY THIS MATTERS

- Offshore energy development can change where fish live and how they behave, potentially disrupting fishing and long-term government surveys that manage fish populations.
- Robust data is essential to balance clean energy growth with healthy oceans and sustainable fishing.
- This project will improve monitoring of fish, elasmobranch, and sea turtle species within and outside of offshore energy areas while minimizing the costs and conflicts of monitoring.

ROSA
Regional Research Program