

LEGEND

Red throated loon, spring migration, utilization distribution

- 50% - Core use areas
- 75%
- 95% - Mean home range

Movement information data products in Northeast & Mid-Atlantic Data Portals

Friday, January 10, 2020

Northeast Ocean Data

Lat: 61.302 Long: -81.563 Scale 1:18,489,298 0 150 300mi

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NORTHEAST OCEAN DATA
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MID-ATLANTIC OCEAN
DATA PORTAL



Call: +1 646 876 9923 US (New York)
+1 669 900 6833 US (San Jose)
Meeting ID: 929 669 557

Presenters

Emily Shumchenia, NROC/Northeast Ocean Data Portal:
emily.shumchenia@gmail.com

Caleb Spiegel, USFWS: Caleb.Spiegel@fws.gov

Agenda

- 10:00 – 10:15 **Introduction** – general Portals introduction and “What are movement information data products?” – Emily Shumchenia, NROC and Caleb Spiegel, USFWS
- 10:15 – 10:30 **Overview and demonstration** of new movement information data products presently shown on the Portals – Emily Shumchenia, NROC
- 10:30 – 11:15 **Questions, discussion, and next steps**
- 11:15 – 11:30 **How can interested participants contribute – data products, review, other opportunities to provide input**

Introduction

Northeast Regional Ocean Council

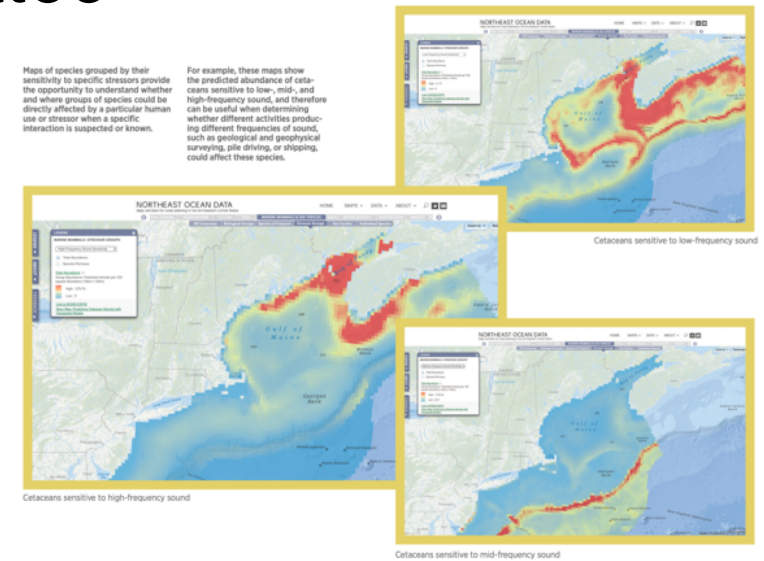
- Formed by the New England governors in 2005
- Voluntary forum for states, federal agencies and other regional partners to coordinate on issues
 - Healthy Ocean and Coastal Ecosystems Committee
 - Coastal Hazards Committee
 - Ocean Planning Committee



Introduction

NROC Ocean Planning Committee

- Began sharing information and coordinating on ocean planning in mid-2000s
- Established the Northeast Ocean Data Portal with regional partners in 2009
- Supported the development of the 2016 Northeast Ocean Plan by the Northeast Regional Planning Body (under Obama-era EO)



OUTCOMES INTERGOVERNMENTAL COORDINATION

The intended outcome of intergovernmental coordination is to develop a common understanding of a proposed project or activity, its potential impacts and alternatives, issues for specific agencies, and the information that will be needed to support review and agency decision-making. Coordination of this type can identify opportunities for making the environmental and regulatory review process more efficient by clarifying the applicable authorities and resulting information requirements, by holding joint meetings or hearings, or by producing National Environmental Policy Act (NEPA) documents that support decision-making by multiple agencies. Done successfully, intergovernmental coordination also provides initial identification of potential adverse impacts to resources or potential conflicts with existing human activities, threatened and endangered species (or other habitats or species), and historic and cultural resources. One outcome of agency coordination is a common understanding of what data are available or missing and needed, and which stakeholders need to be consulted, both as a source of information and as parties with interests in the use of ocean space. The actions in Chapter 3 are intended to inform all of these considerations. Their collective impact, along with the best practices in this chapter, will enhance intergovernmental coordination.



EARLY AGENCY COORDINATION

Entities that participate in early agency coordination in the Northeast typically include (or should include) some combination of the following:

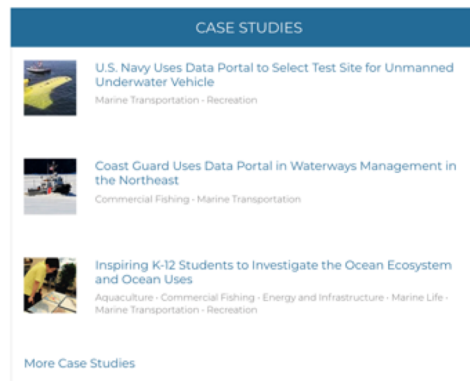
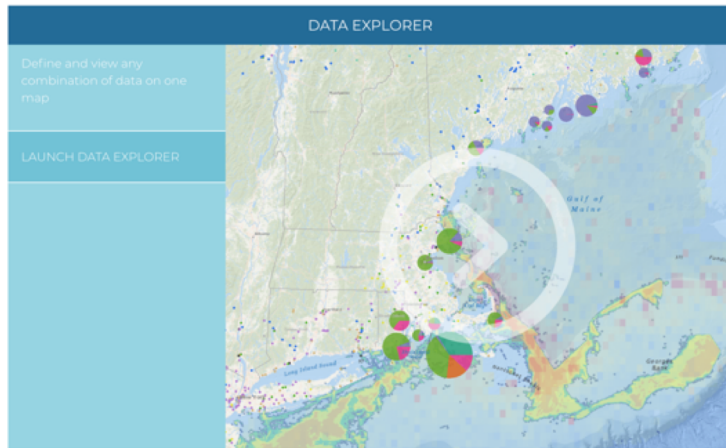
- DOI (including BOEM, USFWS, NPS, USGS)
- FERC
- USACE
- NOAA (including NMFS)
- USEPA
- DHS (including USCG and FEMA)
- Navy
- DOT (MARAD)
- NEFMC and Mid-Atlantic Fishery Management Council (depending on location)
- State agencies (permitting, boating, wildlife, and fisheries agencies; CZM programs; SHPO)
- Fisheries agencies may also coordinate through NEFMC, MAFMC, or ASMFC
- Atlantic States Marine Fisheries Commission
- Federally recognized tribes

RELEVANT LAWS

Federal environmental and regulatory laws to which best practices may apply include:


- NEPA
- Rivers and Harbors Act, Section 10
- Clean Water Act
- Outer Continental Shelf Lands Act
- Endangered Species Act
- Clean Air Act
- Marine Mammal Protection Act
- Federal Power Act
- Integrated Coastal and Ocean Observation System Act
- Deepwater Port Act
- Migratory Bird Treaty Act
- National Historic Preservation Act, Section 106
- Magnuson-Stevens Fishery Conservation and Management Act
- Ports and Waterways Safety Act
- Marine Protection, Research and Sanctuaries Act
- Coastal Zone Management Act
- Natural Gas Act
- National Marine Sanctuaries Act
- Fish and Wildlife Coordination Act

144 NORTHEAST OCEAN PLAN



- Source of over 5,000 map products showing the footprint of activities and resources
- Products derived from federal, state, tribal, research/academic, and stakeholder sources
- Informed and vetted by regional experts, agencies, and stakeholders
- Multiple ways to obtain data and information


Introduction – Portal Use


**NORTHEAST OCEAN DATA**
Maps and Data for Ocean Planning in the Northeastern United States


HOME ABOUT CASE STUDIES THEME MAPS DATA EXPLORER RESOURCES


CASE STUDIES


Applications of Northeast Ocean Data
These case studies provide examples of the many ways that public- and private-sector organizations use the Northeast Ocean Data Portal. Icons indicate ocean uses related to each case study.


 Aquaculture


 Commercial Fishing


 Cultural Resources


 Energy & Infrastructure


 Marine Life & Habitat

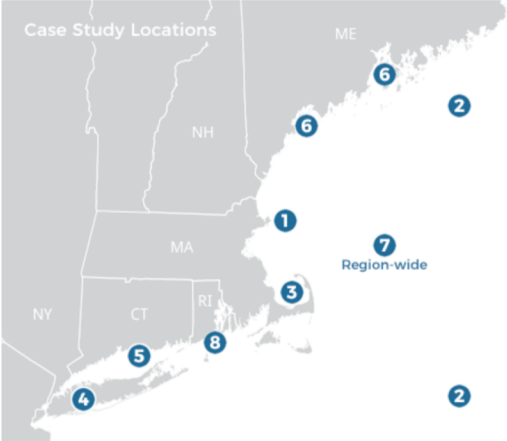
 Marine Transportation

 National Security

 Recreation

 Restoration

 Water Quality



**Planning and
management**


**Education and
research**

**Regulatory and
siting**


MARCO MID-ATLANTIC OCEAN DATA PORTAL

MAP NEWS DATA HELP LOG IN


Ocean Stories



4 Every map tells a story. We help you share yours.
The Portal connects agency, industry,

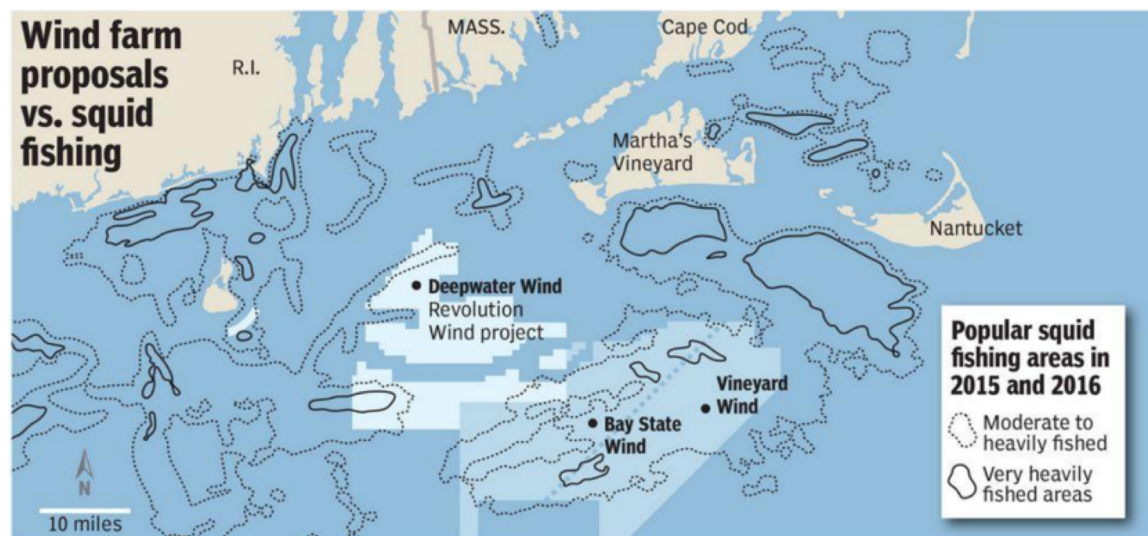


5 Citizen Scientists Track Resurgence of Humpback...
It's Black Friday, and while millions in



10 A Day in the Life: The F/V Christian and Alexa
Kenny and Art Ochse, owners of the

Introduction – Portal Use



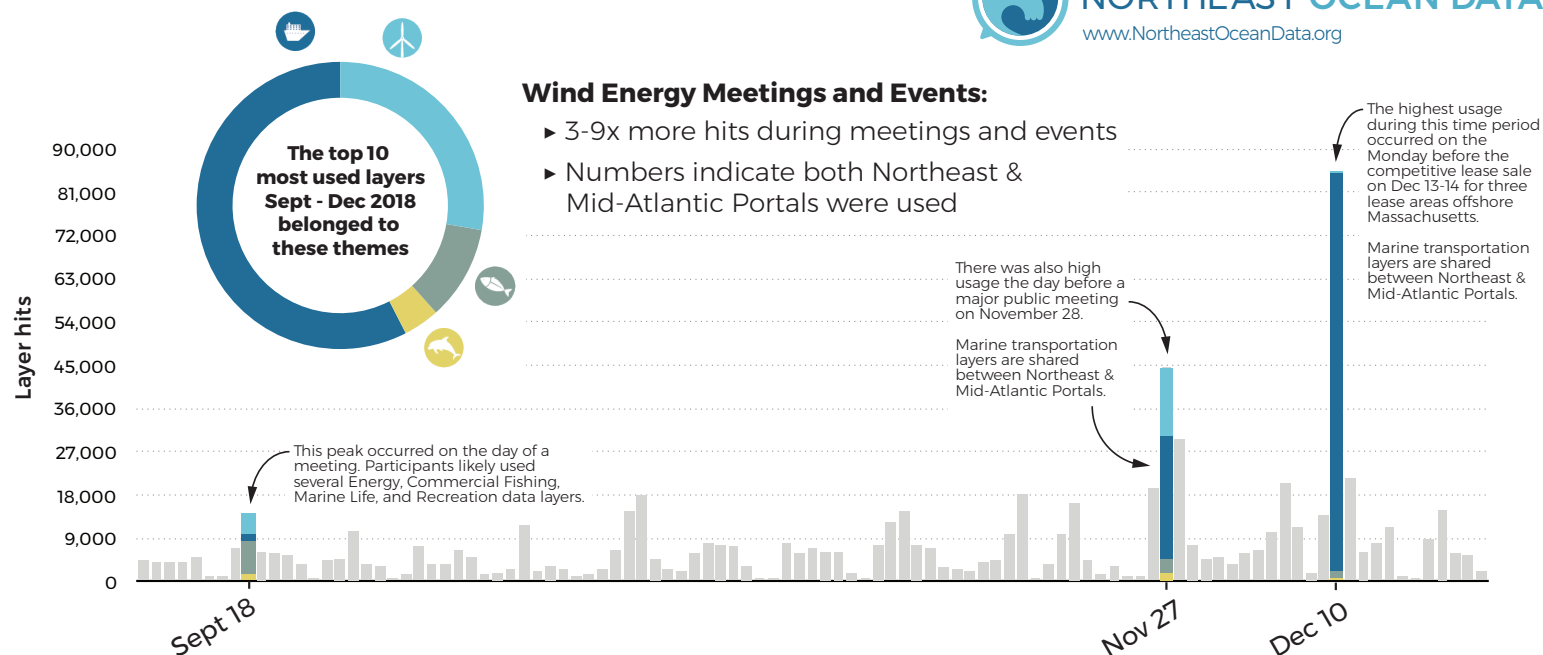
SOURCE: Energy Management, Deepwater Wind, Bureau of Ocean Energy Management, Northeast Ocean Data

PROVIDENCE JOURNAL GRAPHIC



NORTHEAST OCEAN DATA

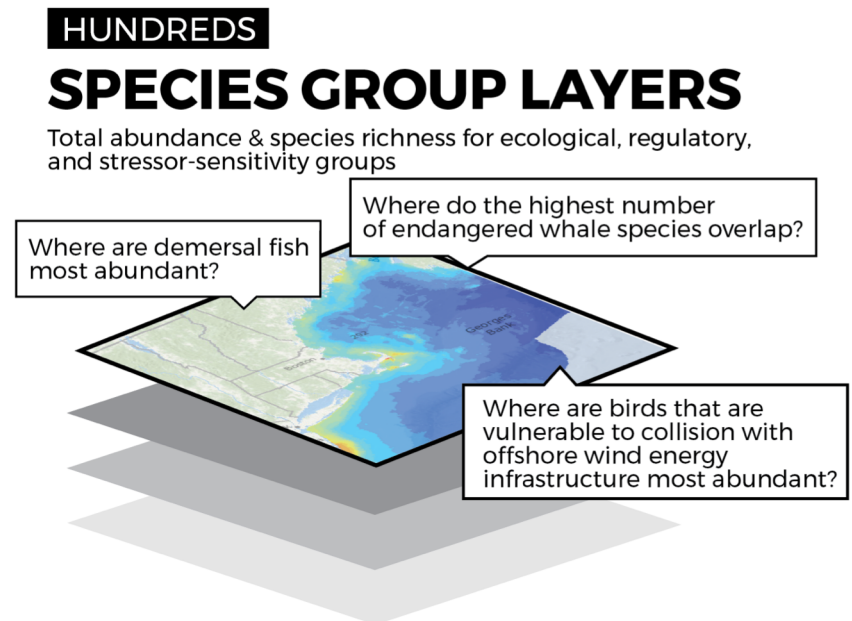
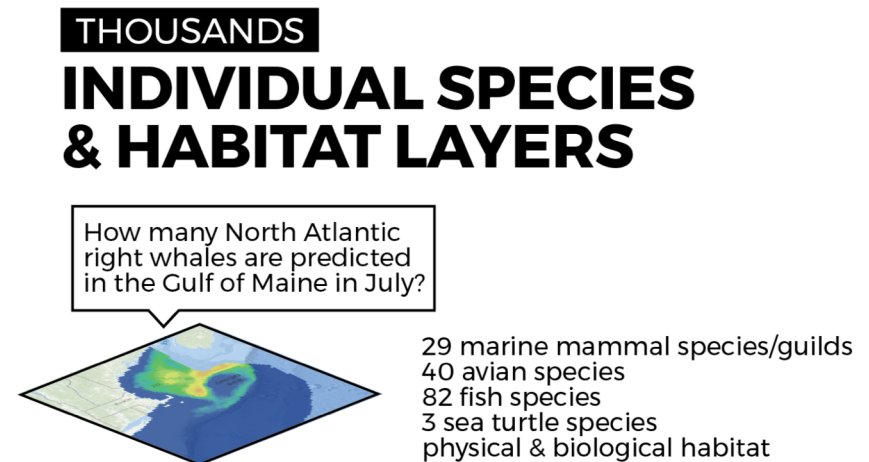
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Introduction

Marine life data on the Portals

- Development of marine life data products accelerated during development of Northeast Ocean Plan and Mid-Atlantic Ocean Action Plan under Obama Admin National Ocean Policy
- Regional Ocean Partnerships, Northeast Regional Ocean Council (NROC) & Mid-Atlantic Council on the Ocean (MARCO), contract with the Marine-life Data and Analysis Team (MDAT), led by the Duke Marine Geospatial Ecology Lab since 2014 for data products representing cetaceans, birds, fish
- All data product development guided by expert work groups
- Framework for presentation and description of data products on the Northeast Ocean Data Portal and the Mid-Atlantic Ocean Data Portal



Introduction

Movement information data products

- Derived from tracking &/or data logging devices attached to individual animals (e.g., satellite, GPS, VHF)
- Not limited to survey area boundaries
- Provides fine-scale spatial and temporal information
→ i.d., correlations b/t movement and habitat use, migratory routes & timing, key use areas (foraging, resting, breeding)
- Detects information at night and inclement weather, which may be of particular interest
- *Products*: utilization distributions, kernel density estimates, migratory pathways, migratory chronologies,
- Limitations: low sample sizes → caution w.r.t. population-level inferences

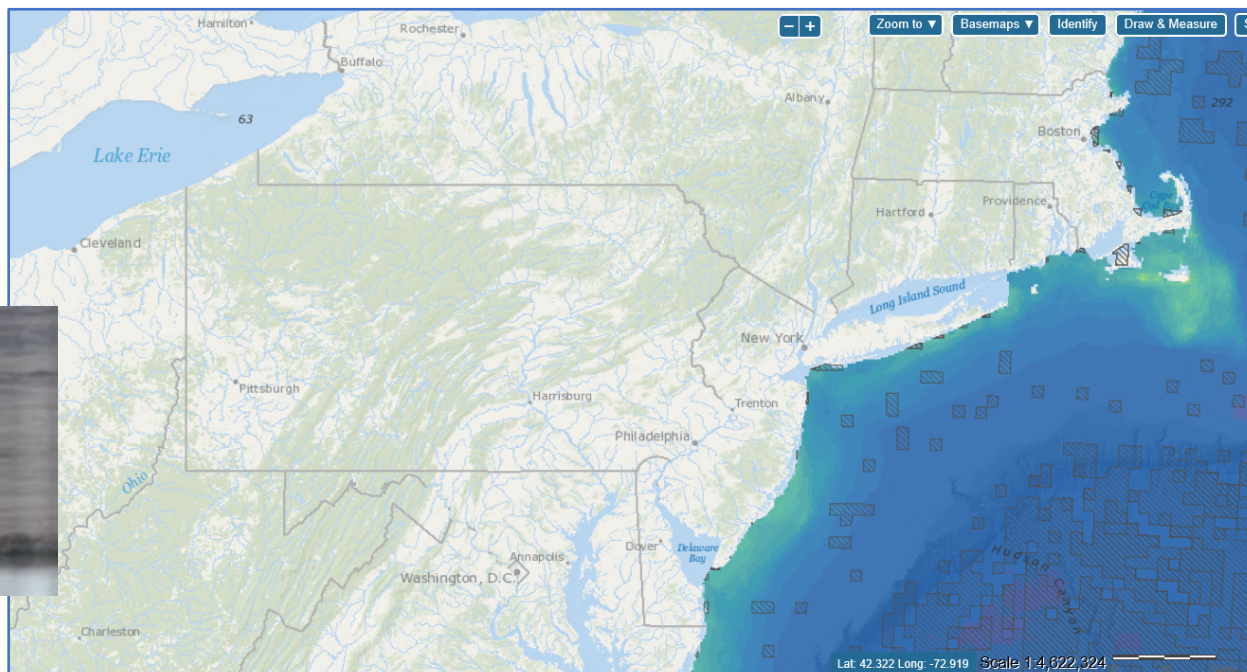


Introduction - Movement information data products (cont.)

Unique, but often complimentary to survey data products

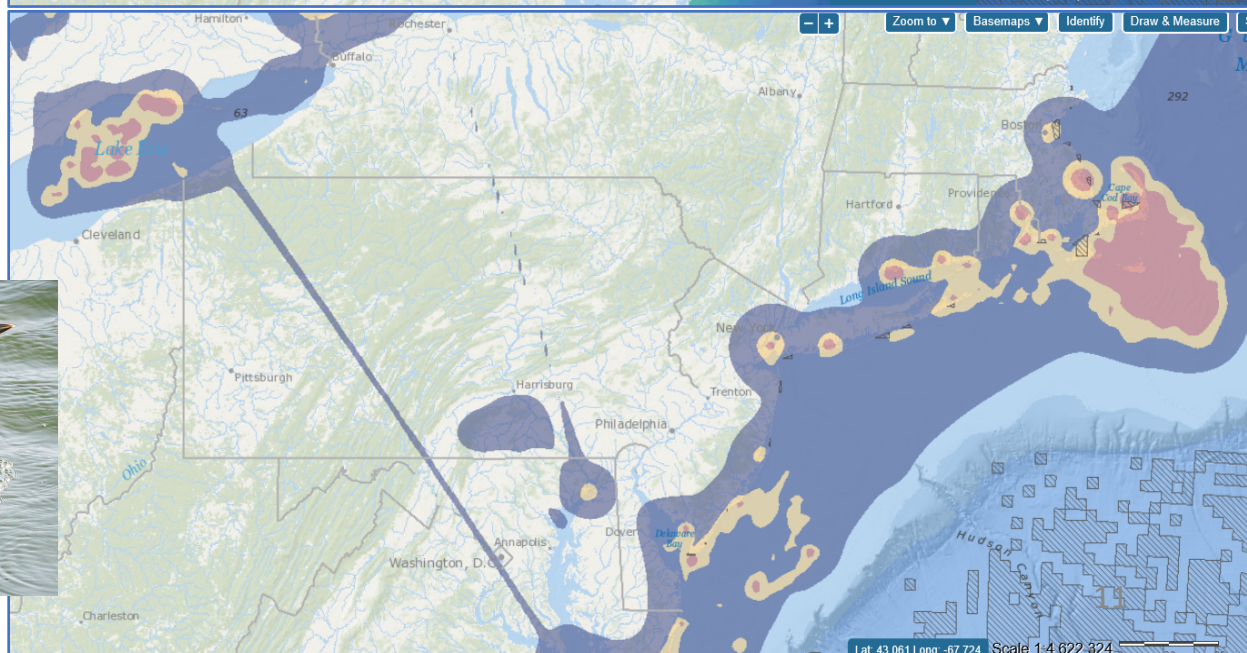
Red-throated Loon:

Survey-derived relative density (spring)



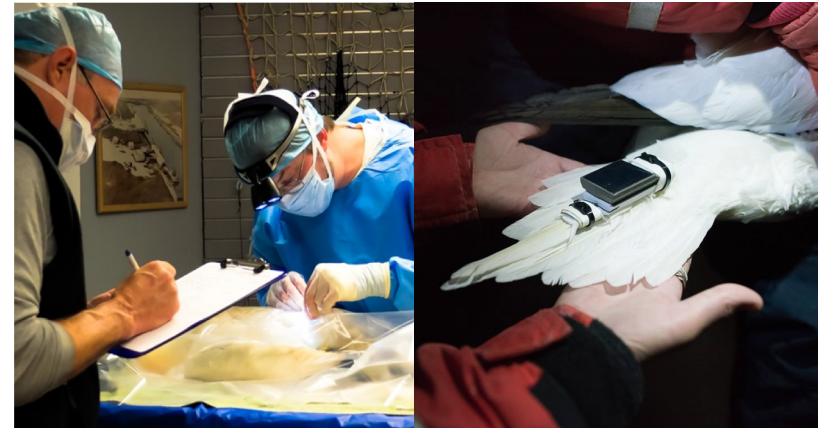
Red-throated Loon:

Tracking-derived utilization distribution (spring)



Introduction - Brief Description – Diving Bird Study Movement Data Products

- Study Leads: BOEM-funded, USFWS coordinated study
- Objective: investigate spatial and temporal use of marine birds in Atlantic offshore waters to assess potential exposure to future offshore wind
- Species: Northern Gannet, Red-throated Loon, Surf Scoter: represent 3 different guilds; conservation or mgmt. concern; vulnerable to collision/displacement offshore wind
- Tagging: 239 individuals captured 2012-2015; implanted or tail taped PTTs; Delaware Bay to NC Outer Banks; Also ~150 addt'l. birds from other studies
- Analysis: dynamic Brownian bridge movement models → spatial utilization distributions (95% home range; 50% core use areas)



Overview and demonstration

Questions and discussion

- a. What other existing movement information data products could be included on the Portals in the near-term?
- b. What other information could accompany movement information data products?
- c. For which species/taxa should movement information data products be a priority?
- d. What types of products are most useful (consider geographic extent, scale, resolution)?
 - a. Metrics (e.g., modeled density, utilization distribution, etc.)
 - b. Analyzed/interpreted data vs. raw tracks – when does it make sense to use raw tracks vs. synthesized products?
- e. What about specific vulnerability or stressor-sensitivity products? Where do they fit?

Next steps

How can interested participants contribute?

- Data products
- Review
- Other opportunities to provide input

Contact us

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kvilacob@monmouth.edu - Karl Vilacoba, Mid-Atlantic Ocean Data Portal

<http://seamap-models.env.duke.edu/models/mdat/> - MDAT data and information