Visual Impacts & Biological Resources

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Bureau of Ocean Energy Management | Department of the Interior

Visual Impacts

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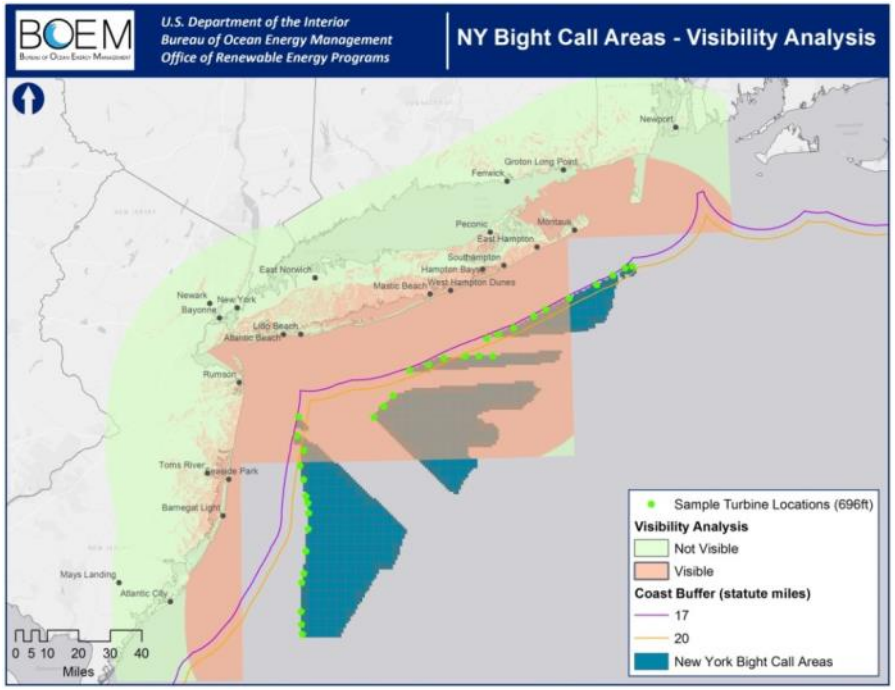
Concerns

- Tourism and Property Values
- FAA Lighting
- Adverse affects to historic properties
- Tribal and Federal Lands

Turbine Visibility

- Whether it causes an economic impact or is **influenced by** the survey respondent's:
  - Support of renewable energy
  - Attachment to a particular shoreline
  - Concerns about other impacts (e.g., whales, fishing)
- Dark skies **light pollution**

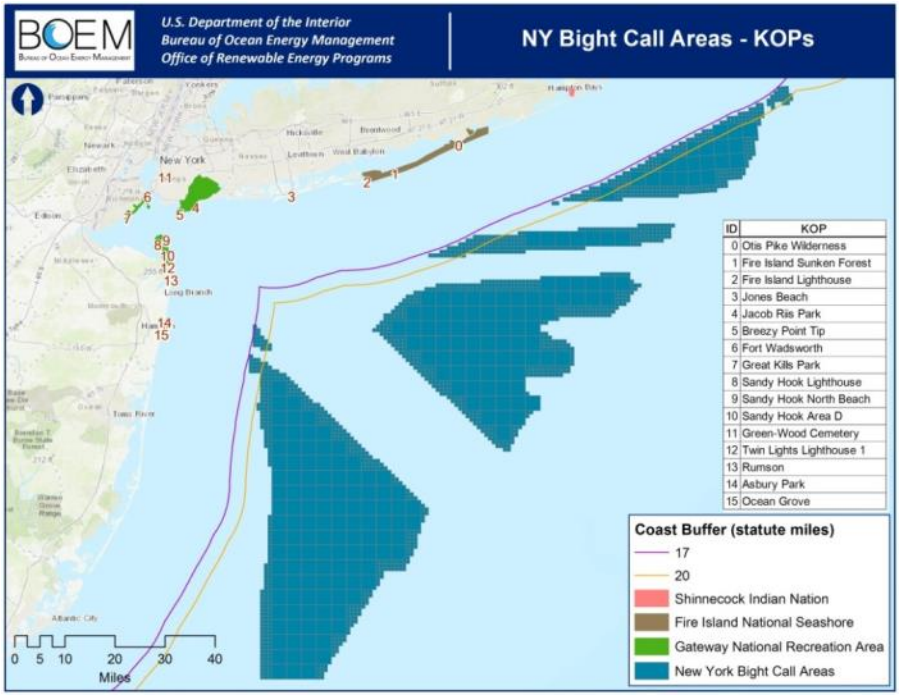
Preliminary Review and Analysis



- **Information-gathering:** Area(s) of concern
  - Tribal Lands
  - Historic Properties/Districts
  - Federal Lands (NPS/FWS)
  - Landscapes
  - Tourist Attractions
- **Map:** does not consider vegetation, buildings, weather

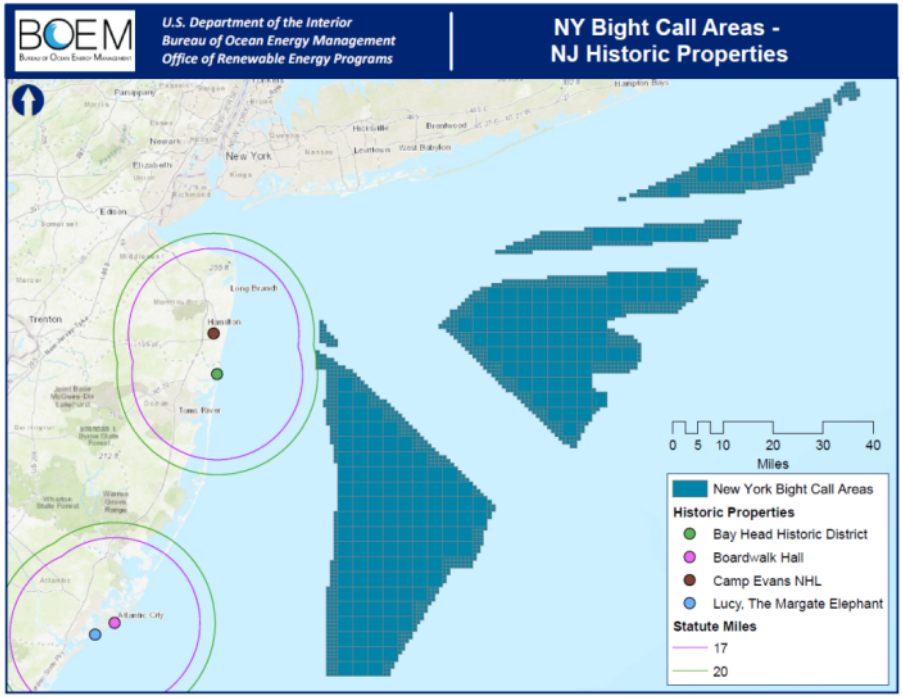
Literature Review

- BOEM Studies
- 2017 State of New York's Visibility Threshold Study
- Park Management Plans
- Historic Preservation Plans
- State Databases



Next Steps

- Incorporate **stakeholder feedback**
  - Comments on the Call
  - Meeting with Shinnecock
  - Call with the NJSHPO
  - Requests for meetings with NYSHPO and NPS
- Consider **mitigation measures**



Questions?

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Avian Species

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Analytical Approach

- Identify species that may be **vulnerable**
- **Where they are** and where they are not
- **How they move** through the area
- How they **respond to development**

Literature Review

- **Winship et al., 2018**
  - www.boem.gov/ESPIS/5/5512.pdf
  - 47 seabird species
  - Predicted relative seasonal densities and distribution

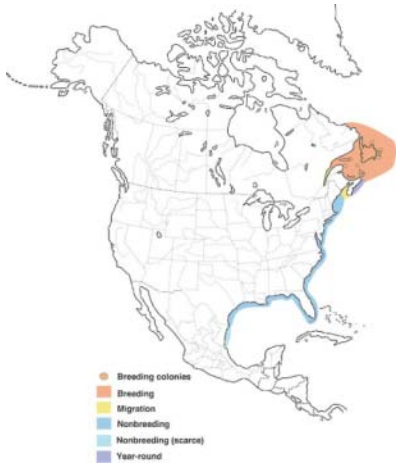
- **NYSERDA Digital Aerial Baseline Surveys**
  - https://remote.normandeau.com/portal_data.php?pj=6&public=1
- **Data gaps**

Northern Gannets

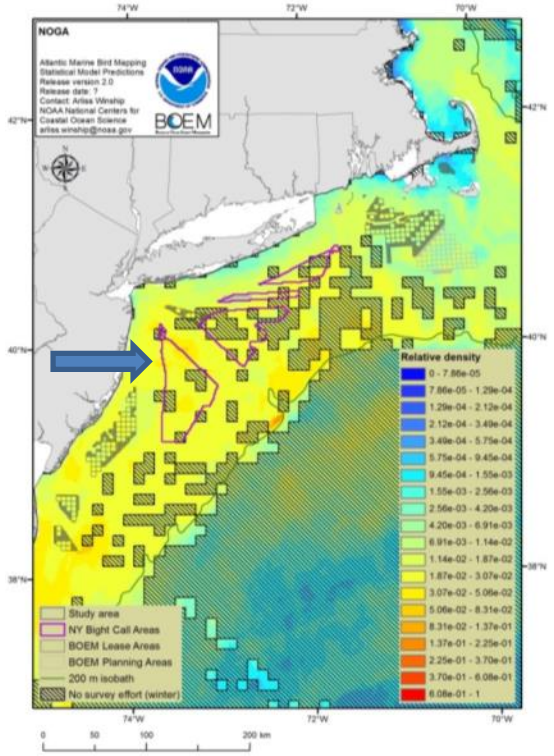
Northern Gannets (*Morus bassanus)*

- Appear in relatively high densities (moderately-high in Hudson South)

Birds of North America Online, © Alex Lamoreaux

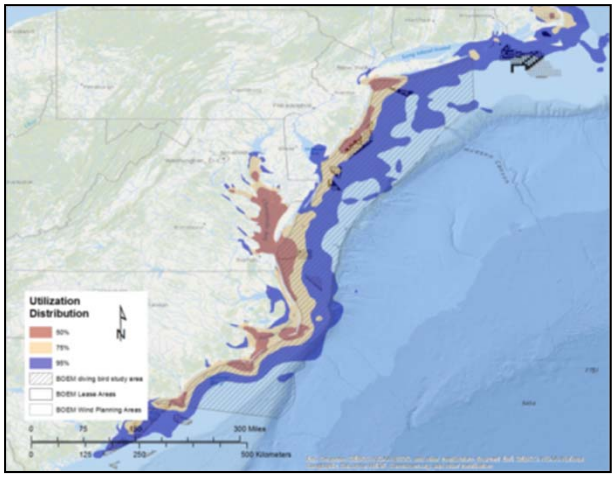


Birds of North America Online



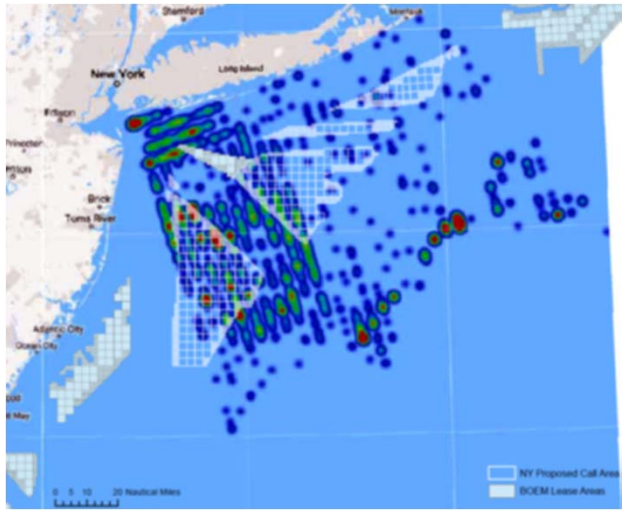
Northern Gannets (cont'd)

- Confirmed by Winter 2017 NYSERDA Aerial Survey
- Spiegel et al., 2017 – BOEM diving bird study



Heat map of Northern Gannet sightings from high-resolution aerial surveys conducted in winter 2017

https://remote.normandeau.com/portal_data.php?pj=6&public=1



Other species and Next Steps

- **NYSERDA's Summer Surveys** (2016 and 2017) showed potential high-use areas by Shearwaters and Storm Petrels in Fairways North Call Area
- Areas found are not known for high concentrations of birds overall or T&E species
- Incorporate into development of potential heat map for Call areas


Storm Petrel

Questions?

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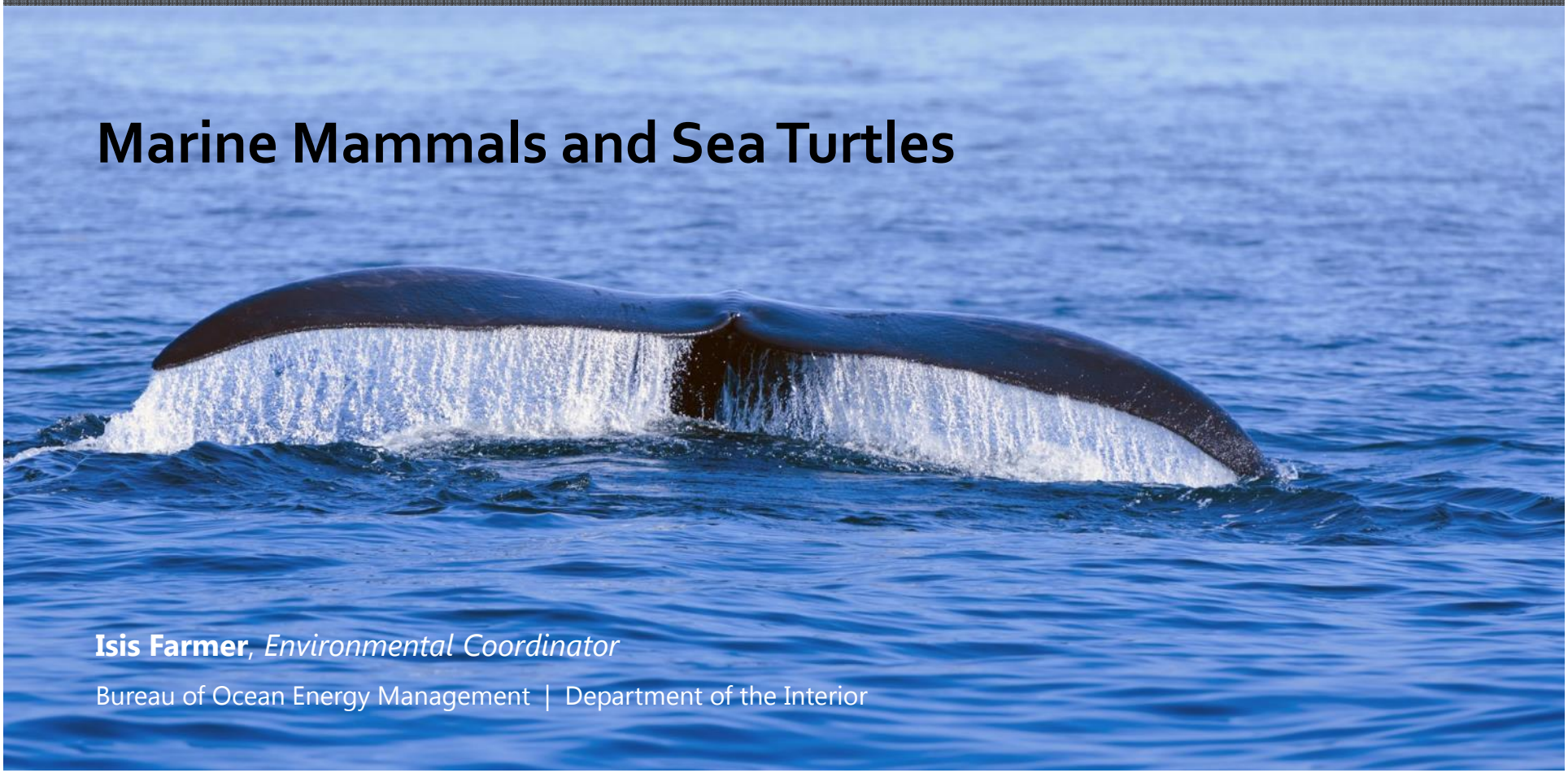
Intergovernmental Renewable Energy Task Force for the NY Bight | *May 9, 2018* | Newark, New Jersey

Marine Mammals and Sea Turtles



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Key Information Sources and Studies

- Duke density models (NMFS-recommended) *(Roberts et al. 2016)*
- NYSERDA/Normandeau Aerial survey results
- Passive Acoustic Monitoring
  - NY Bight Acoustic Monitoring (*Muirhead et al. 2018)*
  - Northeast Passive Acoustic Sensing Network
  - NARW monitoring *(Davis et al. 2017)*
  - NYSDEC passive acoustic monitoring survey
  - WCS/WHOI buoy
- New Jersey Marine Mammal Surveys *(Whitt et al. 2013, 2015)*
- Gotham Whale data *(Brown et al. 2018)*
- Northeast Ocean Data Portal
- BOEM's workshop on Best Management Practices for Atlantic Wind Facilities and Marine Protected Species
- Other data sources

Broad Scale and Call Area Analyses

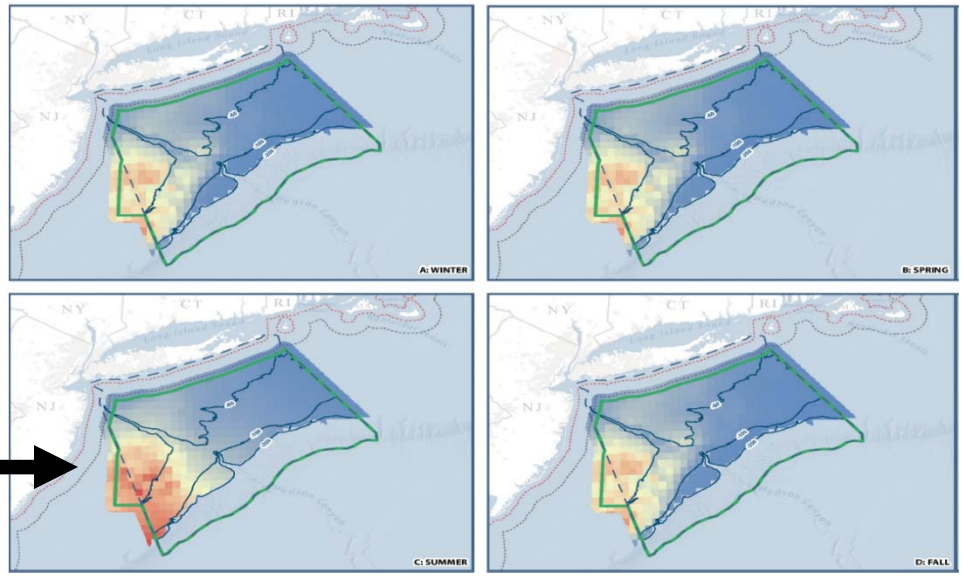
- **Mid-Atlantic**
  - Over 40 species of marine mammals and sea turtles
  - Broad distributions and seasonal trends
- **Continental Slope and Pelagic Waters**
  - Greater diversity of species at/beyond shelf edge
  - Productive waters and canyons
- **NY Bight (Shelf) – Call Area**
  - Lower densities compared to slope and pelagic waters

Habitat

- Seasonal habitat use by many species - migratory movements & opportunistic foraging
- **No habitat areas of particular concern**
  - No defined migratory routes
  - No important calving areas
  - No known foraging hot spots
- **No critical habitat** designated (Endangered Species Act)
- **No marine sanctuaries**

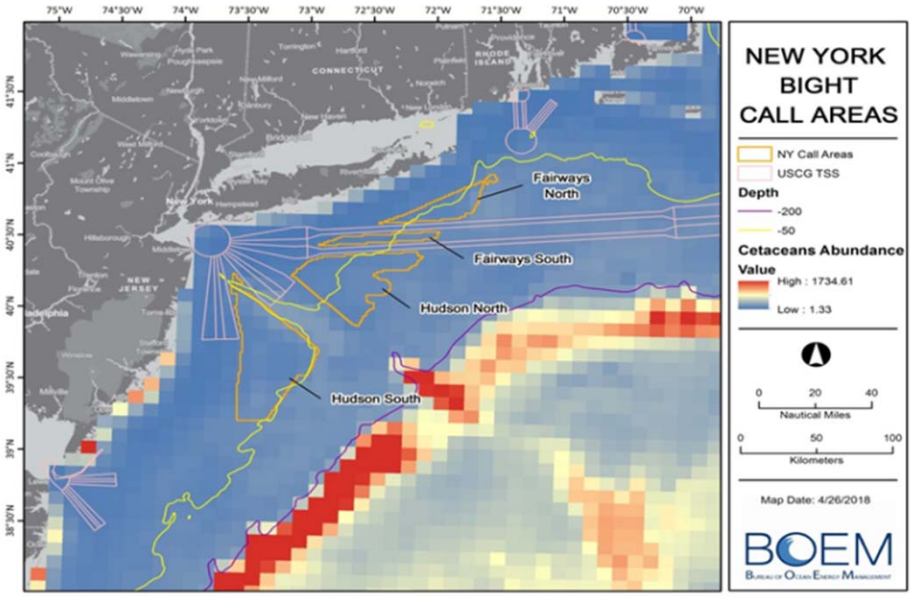
Sea Turtles

- **Broad Scale**
  - High numbers over shelf, also present in pelagic waters
  - High numbers in Mid-Atlantic
- **Call Area**
  - Present year-round
  - Loggerhead densities high in **Hudson South** Call Area
  - Highest in summer
  - No particular habitat areas of concern, nesting beaches, or critical habitat



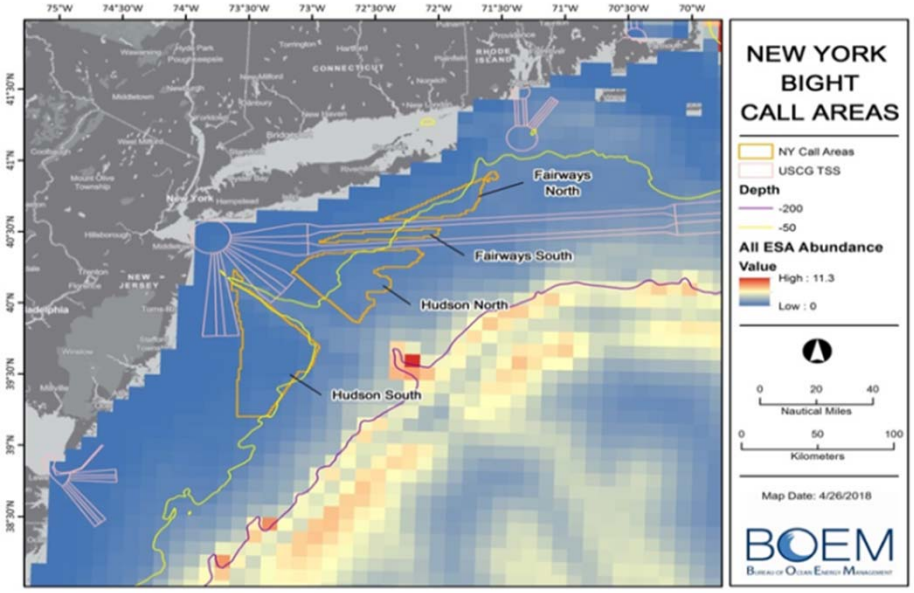
All Cetaceans

- Highly migratory along coast
- No year-round residents
- No defined migratory corridors
- Additional species analysis of NARWs and fin whales, the most common whales in the Call Areas
- Seasonal trends in abundances



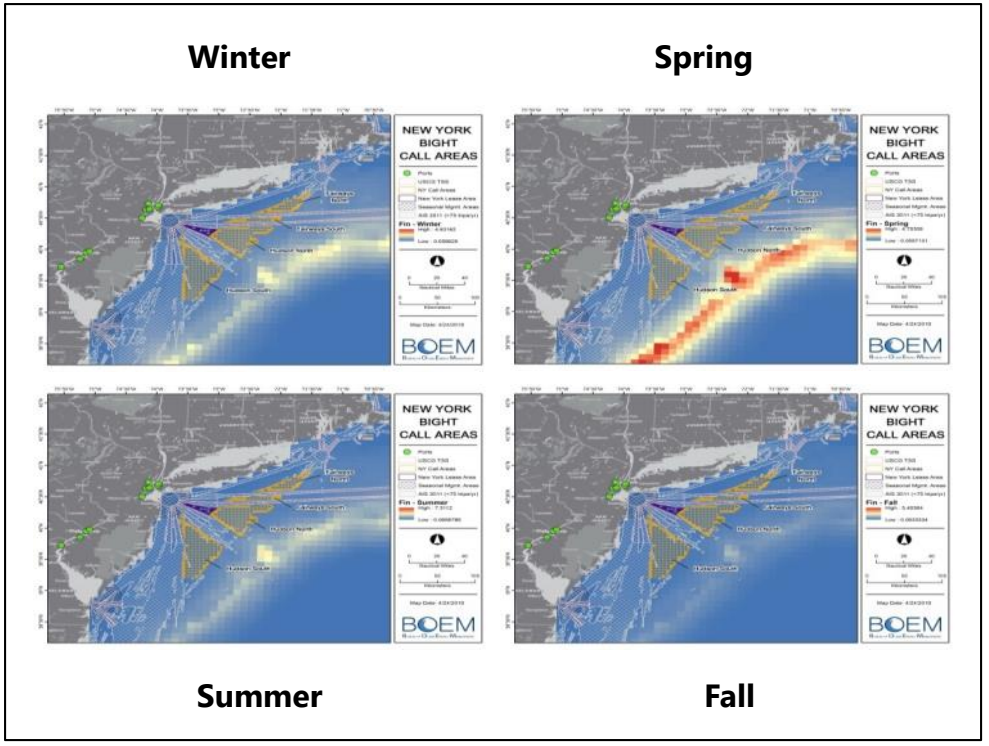
Large Whales

- Highly migratory along coast
- No year-round residents
- No defined migratory corridors
- Additional species analysis of NARWs and fin whales, the most common whales in the Call Areas
- Seasonal trends in abundances

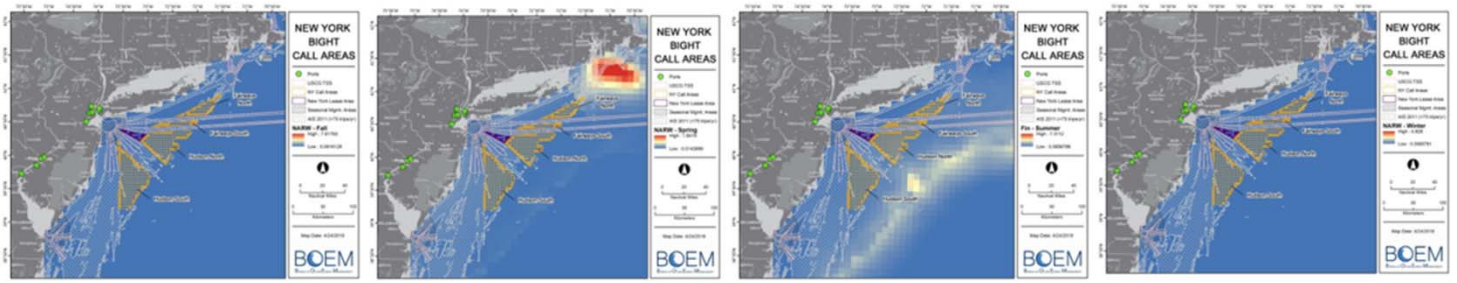


Fin Whales

- Greatest densities in Spring
- Low densities over continental shelf
- Higher densities over shelf edge and slope south and east of the Call Areas
- No significant conflicts identified in the Call Areas
- BMPs will be considered



North Atlantic Right Whales (NARWs)



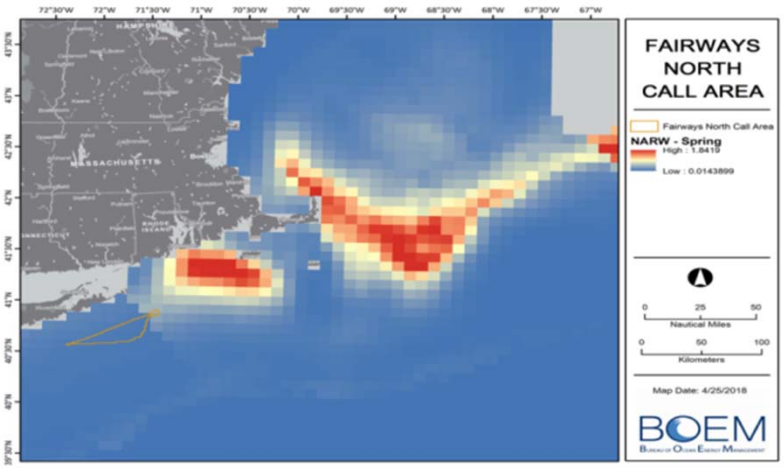
- Greatest occurrence offshore RI/MA in Spring - Preferred foraging habitat
- May be present in Call Areas, but expected in lower densities
- Sporadically nearshore late Feb to mid-May
- Migratory movements may occur year-round
- Potential conflict: close proximity of Fairways North to high densities in Spring

NARWs and Fairways North Foraging Habitat

Potential Issue: Close proximity of the northwestern tip of the Fairways North Call Area to NARW foraging habitat

Further Analysis:

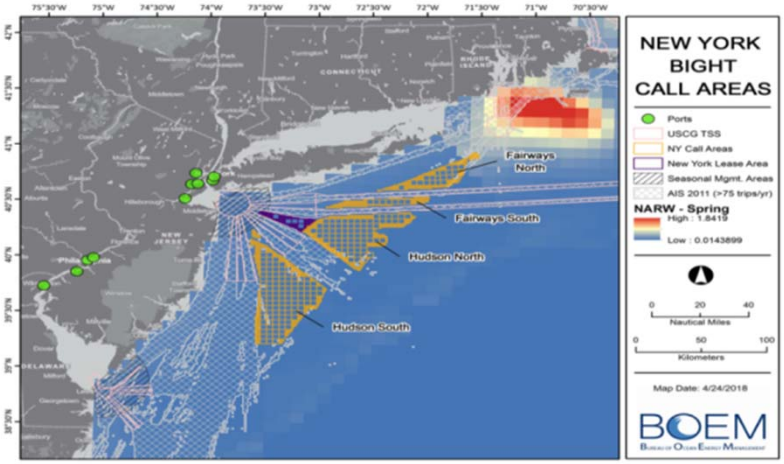
- Duke density models updated with new data
- New data available (e.g., digital aerial surveys, passive acoustic monitoring)
- Task Force and public input on potential conflicts in the Call Areas
- Best Management Practices considered



NARWs and Vessel Traffic

Potential Issue: Vessel Strikes

- Call Areas between NY/NJ and Delaware Bay port entrances
- NY-NJ traffic patterns border each Call Area
- SMAs Nov 1-Apr 30 around each port area (extending out to 20 nm), vessel 65 ft or larger, speed restricted to 10 kt or less



Further Analysis:

- BOEM will further analyze AIS data and NARW distribution in Call Areas
- Consider existing speed regulations and BMPs appropriate to reduce potential impacts

Notes of Interest

- **BOEM BMP workshop report:** www.boem.gov/BMP-Workshop-Protected-Species
- Follow-up workshop on development of a **scientific research framework** planned
  - In coordination with MassCEC
  - May 30-31, 2018

Questions?

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