National Recovery Program Review

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How effective is NOAA Fisheries at monitoring and implementing recovery?

Case Study 1

North Atlantic Right Whale (*Eubalaena glacialis*)

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Greater Atlantic Regional Fisheries Office

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Background

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- **Plan Name:** Recovery Plan for the North Atlantic Right Whale (*Eubalaena glacialis*)
- **Plan Status:** Final
  - Original Version: December 1991
  - Revisions: July 2001 and May 2005
- **Development:** Recovery Team

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Background

- **Species Distribution:** General Description
  - Right whales are frequently found in coastal or shelf waters
  - Distribution is strongly correlated to the distribution of their prey (calanoid copepods)
  - During the winter right whales have been observed in the coastal waters of lower latitudes where calving takes place.
  - Right whales migrate to higher latitudes during spring and summer.

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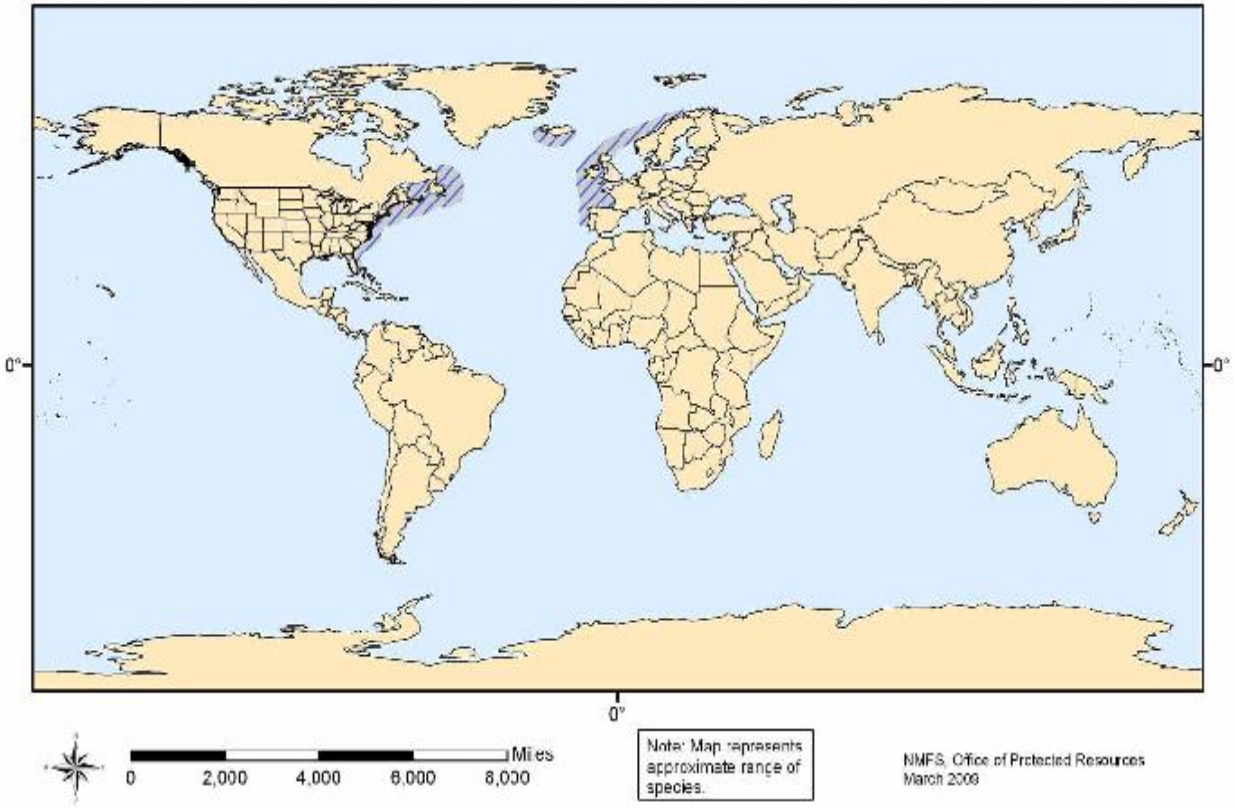
North Atlantic Right Whale Range



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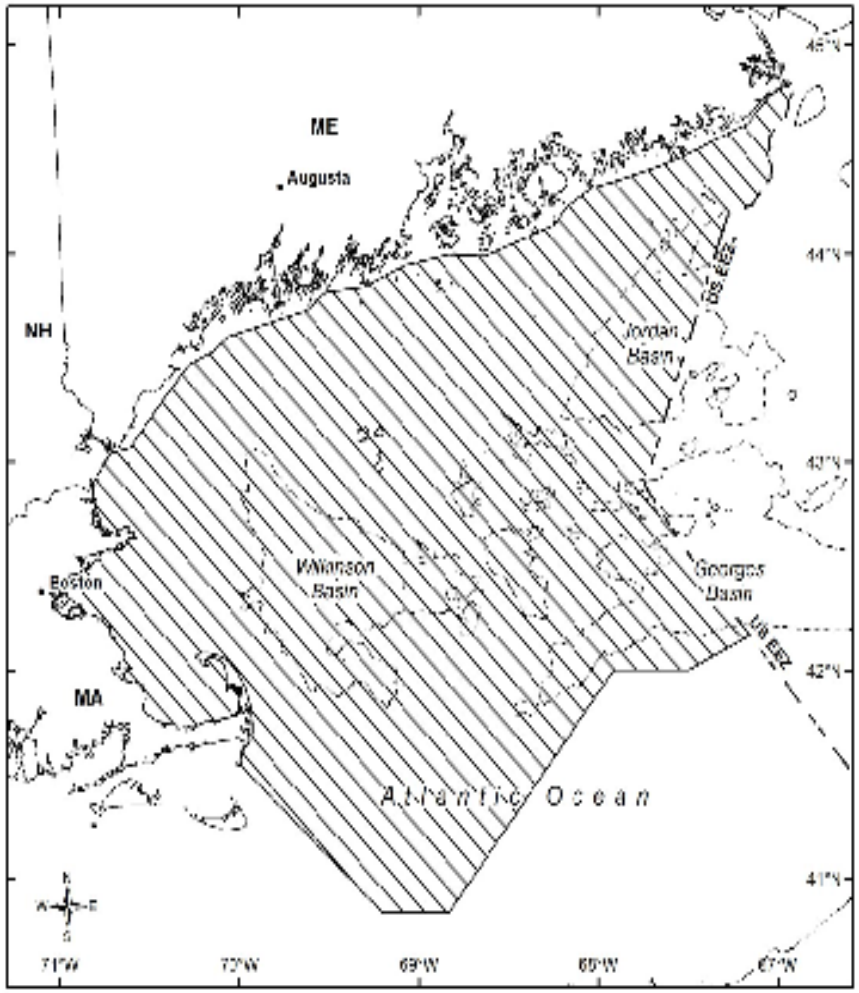
Background

- **Species Distribution:** Western North Atlantic Population
  - Range from wintering and calving areas in coastal waters off the southeastern U.S. to summer feeding and nursery grounds in New England waters and north to the Bay of Fundy and Scotian Shelf (some individuals has been reported further north and south).
  - High use areas include:
    - Coastal Florida and Georgia (winter)
    - Massachusetts Bay and Cape Cod Bay (spring)
    - Great South Channel (east of Cape Cod – spring/summer)
    - Bay of Fundy (summer/fall), and
    - Scotian Shelf (summer/fall)

North Atlantic Right Whale Critical Habitat
Northeastern U.S. Foraging Area

Unit 1



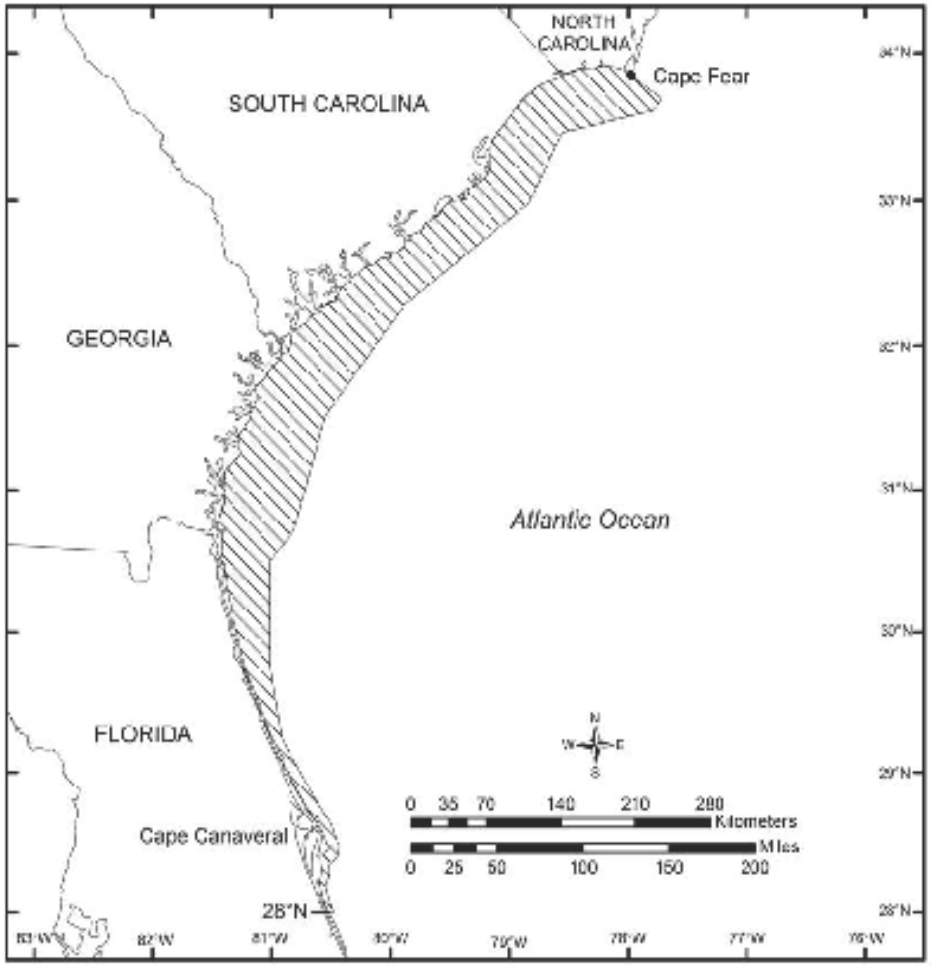
Critical Habitat

200m Depth Contour

This map is provided for illustrative purposes only of North Atlantic right whale critical habitat. For the precise legal definition of critical habitat, please refer to the narrative description.

North Atlantic Right Whale Critical Habitat
Southeastern U.S. Calving Area

Unit 2



Critical Habitat

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Background

- **Listing Status:** Listed as endangered under the ESA since its passage in 1973 (originally listed as the northern right whale).
- **Current Status:** Increasing/unknown(?)
- Most recent stock assessment report for the northwestern North Atlantic right whale population suggests a positive and slowly accelerating trend in abundance
- However, a more recent estimate was calculated that suggest fluctuating abundances that has declined in recent years.
- There seems to have been a considerable change in right whale stay durations and use patterns in the principal areas where most of the population was frequently re-sighted.
- Therefore, some caution is advised interpreting the downward trend in abundance over the last 3 years.

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Recovery Implementation Team

Do you have an implementation plan/team?

- Northeast Implementation Team (NEIT)
- Southeast Implementation Team (SEIT)

Has it improved successful implementation?

- NEIT: Yes
  - In the earlier years the NEIT looked at all right whale recovery issues
  - Focus changed to ship strike issues in the early 2000s
  - The work done by the NEIT had a role in the development of the right whale ship strike reduction measures.
  - In 2003 and again in 2004 we tried to restructure the NEIT to serve more as a monitoring team. However these attempts were unsuccessful.
  - Disbanded in 2005

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Recovery Implementation Team

Has it improved successful implementation?

- SEIT: Yes
  - Originally focused on ship strike reduction
  - 2007 SEIT Established a new framework to strengthen partnership between the SEIT, NMFS and the SERO
    - Collaboratively assessed current status of recovery plan within the Southeast (shift to recovery monitoring within Southeast)
      - What's working?
      - What's not working?
      - How can the SEIT be structured to meet management challenges while not compromising momentum?

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Recovery Implementation Engagement

- External partnerships in implementing recovery (aside from the SEIT/NEIT) have primarily taken place as stakeholder negotiations
  - The Atlantic Large Whale Take Reduction (fisheries stakeholders) issued under MMPA and
  - Ship speed regulations (shipping industry) issued under the ESA.
  - Academics and NGOs
- Internally, right whale recovery has seen extensive collaboration across five NMFS FMCs (OPR, GARFO, NEFSC, SERO, and SEFSC).

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Recovery Monitoring

How do you monitor progress?

- Tracking population parameters.
    - Count calves, estimate abundance and trends in abundance, etc. to evaluate our success.
- Extensive monitoring activity for regulatory programs in place addressing recovery criteria – both fisheries interactions and ship strikes.
    - Implemented a formal monitoring strategy for the ALWTRP in 2010.
    - Ship speed rule has undergone thorough monitoring and evaluation to determine its effectiveness (primarily driven by the original rule's "sunset" date of 12/9/2013).

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Recovery Monitoring

How do you use monitoring data to revise/update recovery plan?

- The most recent re-prioritization of recovery criteria occurred at the conclusion of the last right whale 5-year review in 2012.
    - Assessing the ship speed rule
    - Continuing to reduce fixed-gear entanglement risk
    - Working with Canadian counterparts
    - Assessing the efficiency and effectiveness of aerial survey programs for right whales.

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Recovery Technology

We rely heavily on GIS analyses for right whales

- AIS transits
- Development of predictive calving habitat models used to spatially focus SE calving surveys in a dynamic environment.
- Analysis of DAMs/DMAs
- Sightings data
- Co-occurrence modeling
- Tagging
    - Floating carcasses
    - Entangled whales

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Recovery Integration

- Right whale considerations are central to much of NOAA Fisheries work (MMPA, ESA recovery, ESA Section 7)
  - Critical habitat revision (most recent example)
- Dedicated staff person in GARFO and SERO serving as a liaison to Sustainable Fisheries Division and Councils to raise Protected Resources Division issues, including right whales.
- High-visibility species (e.g., Congress), therefore integration/cooperation is important
  - Helps drive the science and focus on the species.

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Recovery Progress

Many recovery actions ongoing over an extended period.

- Outreach and education initiatives
- Ship speed rule has been made permanent and continue to monitor.
  - Potential new SMAs and/or ATBA if necessary
- Entanglement risks from ground lines, vertical lines, surface systems and gillnet gear minimized coastwide and continue to monitor.
  - Potential new gear modifications and area closures
- Monitoring plans developed and implemented for vessel and gear interactions
- Section 7 consultations, including a general shift to Section 7(a)(1) Conservation Agreements

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Recovery Progress

Emerging projects in need of continued resources

- SEIT Monitoring Plan for Southeast U.S. recovery efforts
- Development of a comprehensive Right Whale Recovery Monitoring Plan
  - Evaluates all threats to the species identified in recovery plan and makes recommendations for research, science and management
  - Need to focus on monitoring to determine the effectiveness of current conservation measures.
  - Identification of recovery strengths and weaknesses and development of strategies to overcome weaknesses.

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Summary

Recovery Success

- Since late 1990's population suggests a positive and slowly accelerating trend in abundance
  - *Although a more recent estimate was calculated that suggest fluctuating abundances that has declined in recent years*
- Successful Implementation Teams
- Monitoring plans developed and implemented for vessel and gear interactions
- Integration of right whale recovery into fishery management plans
- Increased awareness and community engaged in right whale recovery

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Summary

Recovery Challenges

- Assessing the effectiveness and efficiency of right whale survey platforms to develop the most cost effective and efficient survey program
- Development of quantitative recovery criteria population models to determine extinction risk, and parameters to validate the model predictions
- Uncertainty in the right whale population (distributional shift, inconsistent/changing migratory patterns, climate change impacts)
- Ensuring equitable conservation measures within foreign countries (Canada)

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Summary

Recovery Challenges

- Assessing the effectiveness of ship strike measures
- Assessing effectiveness of Take Reduction Plan
  - Difficulty differentiating U.S and Canadian entanglements and ship strikes
- Assessing aquaculture impacts
- Assessing sound impacts
- Conducting research on alternative fishing methods/techniques
- Enforcement of fishing and shipping regulations
- Competing interests – lack of unified effort to recovery species both internal and external to U.S.

Questions?