

OFFSHORE WIND ACCELERATOR PROJECT WEBINAR SERIES

North Atlantic Right Whales and Offshore Wind Mitigation Measures and Offshore Wind Site Assessment and Characterization Activities



March 1, 2013

Housekeeping

All participants will be placed in “listen-only” mode when joining the webinar. You will be connected to audio using your computer’s microphone and speakers (VoIP). Or you may select *Use Telephone* after joining the Webinar: Make sure to enter your phone Audio PIN, shown in the webinar control panel, if you choose the option to join by telephone.

You are encouraged to type in questions regarding today’s presentations at any time during the webinar by entering your question in the **Question Box** on the webinar console. Questions will be answered as time allows following all of today’s presentations.

This webinar is being recorded and will be made available after the call at www.cleanenergystates.org under **Events**. Previous webinar recordings are also posted.

Today's Agenda

- Introduction by Justin Allegro, National Wildlife Federation
- Presentations
 - Scott D. Kraus, Ph.D., New England Aquarium
 - Michael Jasny, NRDC
 - Aileen Kenney, Deepwater Wind
 - Tricia K. Jedele, Conservation Law Foundation
- Time for questions

Clean Energy States Alliance

CESA is a non-profit organization working with states, federal agencies, and municipalities to advance the renewable energy sector through:

- Information Exchange & Analysis
- Partnership Development
- Networking and Collaboration

www.cleanenergystates.org

Offshore Wind Accelerator Project

OWAP Objective: Address key challenges facing offshore wind in five focus areas

1. Ensure cooperation and communication among stakeholders and government leaders on priority problem-solving.
2. Improve regulatory approaches to support smart siting while reducing review costs & timelines.
3. Advance investment through power procurement collaborative networks and use of new financing mechanisms.
4. Advance opportunities, strategies, and collaboration to build a domestic OSW industry (**USOWC leads the supply chain effort**).
5. Implement a communication effort to ensure public education and stakeholder access to objective information.

Stay connected to OWAP

- Offshore Wind WORKS campaign website:
<http://www.offshorewindworks.org>
- Like us on Facebook:
<http://www.facebook.com/offshorewindworks>
- Follow us on Twitter:
<http://www.twitter.com/OSWindWorks>

Upcoming OWAP Webinars

- **March 11:** “Learning Investment in Offshore Wind: An Economic Analysis”
- **March 19:** “Understanding Regional Offshore Wind Supply Chain Opportunities”

Learn more and register at
www.cleanenergystates.org

Contact Us

Marissa Newhall

marissa@cleanegroup.org

(202) 527-9196

www.cleanenergystates.org

www.offshorewindworks.org

North Atlantic Right Whale Mitigation Measures and Offshore Wind Site Assessment and Characterization Activities for the Mid-Atlantic: A Case Study for Collaboration



Presentation to OWAP
March 1, 2013

Agenda

- ▶ Introductions of parties and collective goals
 - Justin Allegro – National Wildlife Federation
- ▶ Right whale scientific background, status, estimated use, potential impacts of noise
 - Scott Kraus – New England Aquarium
- ▶ Right whale mitigation measures
 - Michael Jasny – Natural Resources Defense Council
- ▶ Industry viewpoint
 - Aileen Kenney – Deepwater Wind
- ▶ Next steps and questions
 - Tricia Jedele – Conservation Law Foundation

Speakers

Justin Allegro – National Wildlife Federation, Renewable Energy and Wildlife Program

Justin manages NWF's to program promote the expansion of wildlife-friendly renewable energy sources along with the policies and practices to avoid, minimize, and mitigate impacts to wildlife in the process. He has a BA in Politics from Washington and Lee University and is pursuing his MS in Energy Policy and Climate at Johns Hopkins University.

Scott D. Kraus, Ph.D. – New England Aquarium, Vice President for Research

Dr. Kraus is interested in the biology and conservation problems facing North Atlantic right whales. He has published over 70 scientific papers on cetacean biology and conservation, and is adjunct faculty at Univ. of Mass. at Boston and the University of Southern Maine. He has an M.S. in Biology from the UMass and a Ph.D. in Zoology from the University of New Hampshire.

Michael Jasny – Natural Resources Defense Council, Senior Policy Analyst and Director of the Marine Mammal Protection Project:

Michael is a leading expert in the law and policy of ocean noise pollution, and has worked domestically and internationally for more than ten years through high-profile litigation, lobbying, science-based policy development, and public advocacy to improve regulation of this emergent global problem. He holds a bachelor's degree from Yale College and J.D. from Harvard Law School.

Aileen Kenney – Deepwater Wind, Vice President of Permitting & Environmental Affairs

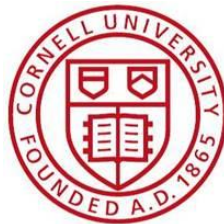
Aileen is responsible for overseeing the permitting of all projects at Deepwater Wind. Aileen has worked on the permitting of wind and other energy projects in the United States and abroad for over 10 years. Aileen received her BA and MA in Environmental Science & Policy from Clark University.

Tricia K. Jedele – Conservation Law Foundation, VP and CLF Rhode Island Director

Tricia is a graduate of Providence College. She received her J.D. from Creighton University. She joins CLF after serving 10 years as a Special Assistant Attorney General and the State's Environmental Advocate with the Rhode Island Office of the Attorney General.

A Collaborative Effort

These proposed measures are the result of a collaborative effort between leading offshore wind developers and leading environmental NGOs with input from scientific experts



Background

- ▶ **Goal:** develop mitigation measures to protect the North Atlantic right whale while facilitating site and assessment and characterization activities related to offshore wind energy development in the mid-Atlantic WEAs
- ▶ Site characterization and assessment
- ▶ Application of these proposed measures is for the Mid-Atlantic WEA's only, due to the heightened concerns specific to that geographic area



THE TURNING POINT FOR ATLANTIC OFFSHORE WIND ENERGY:

Time for Action to Create Jobs, Reduce Pollution, Protect Wildlife, and Secure America's Energy Future

NATIONAL WILDLIFE FEDERATION 2012



Cetty Images



Report
CONFRONTING GLOBAL WARMING



SOUTHEASTERN COASTAL WIND

C O A L I T I O N



CAPE WIND NOW

WIND WORKS FOR MARYLAND

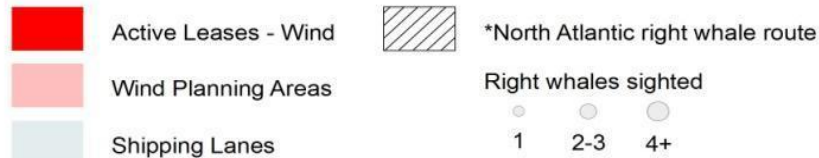
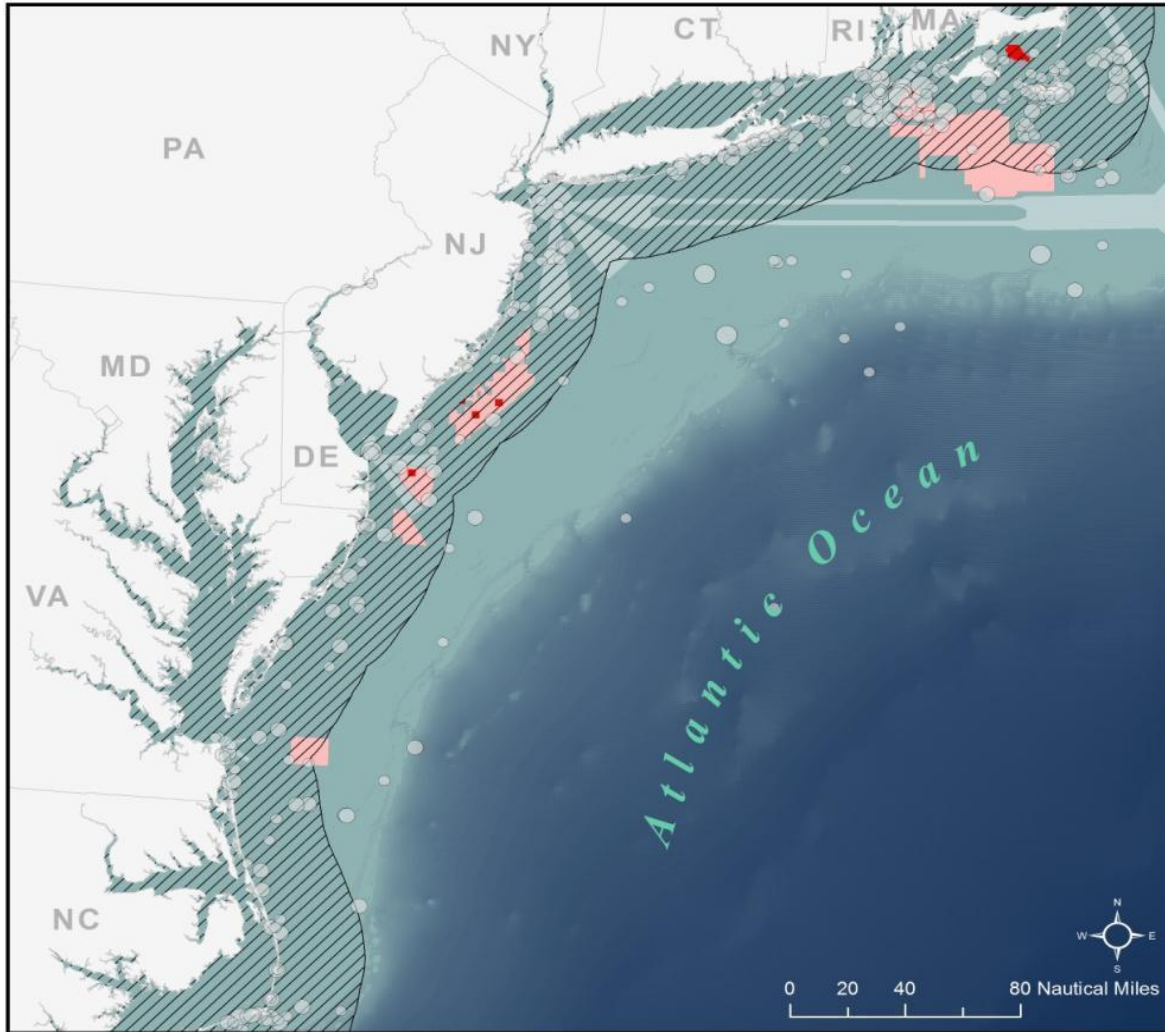
JOBS • HEALTH • CLIMATE



History and Status – Kraus

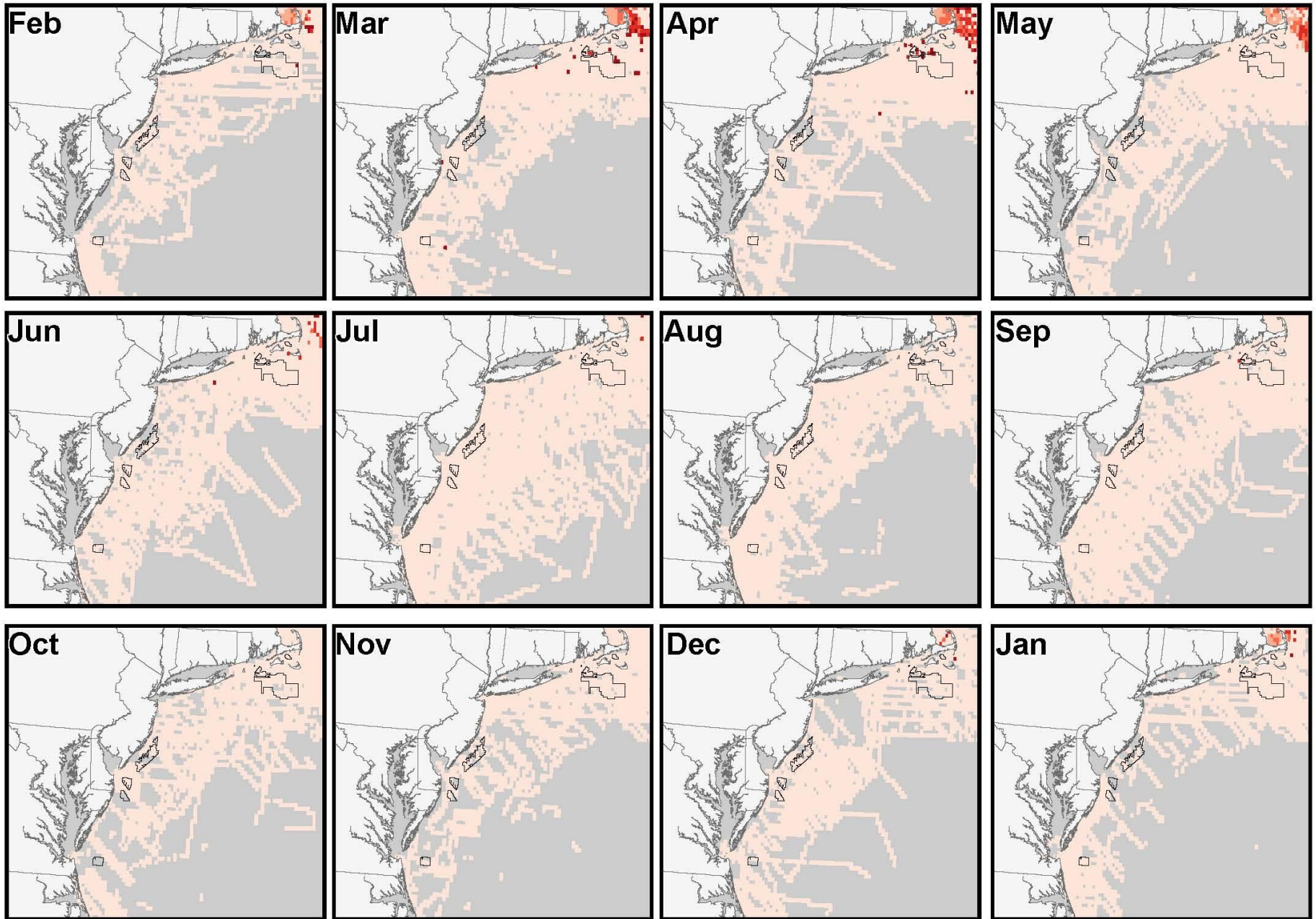
- ▶ **Background:** decline and protection
- ▶ Current population status
- ▶ Key life-cycle behaviors
- ▶ Identified threats

North Atlantic Right Whale Migration: Nov. - Apr.

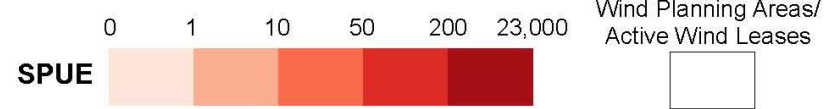


*The North Atlantic right whale route for the mid-Atlantic was created by measuring the distance of whale sightings to shore during the time of migration through the region (Nov-Apr). An area covering one standard deviation from the mean distance was created to encompass 95% of whale sightings.

Data sources: Right Whale Consortium Database, 1762-2010
Projection: NAD 83 UTM 19 N



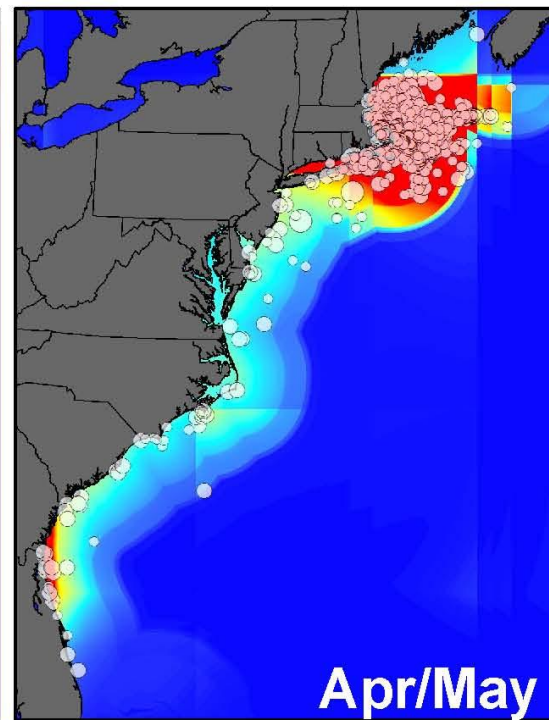
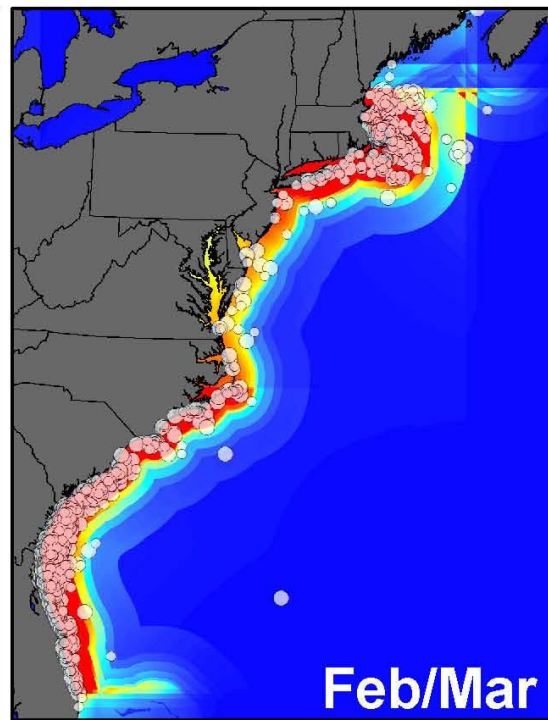
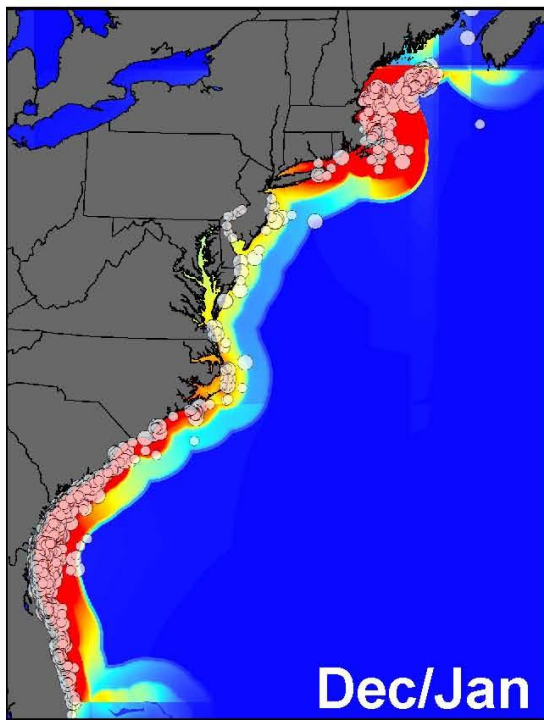
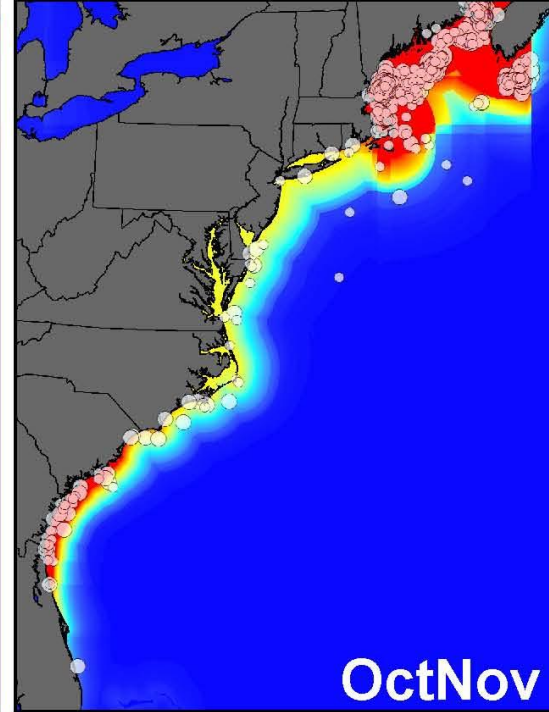
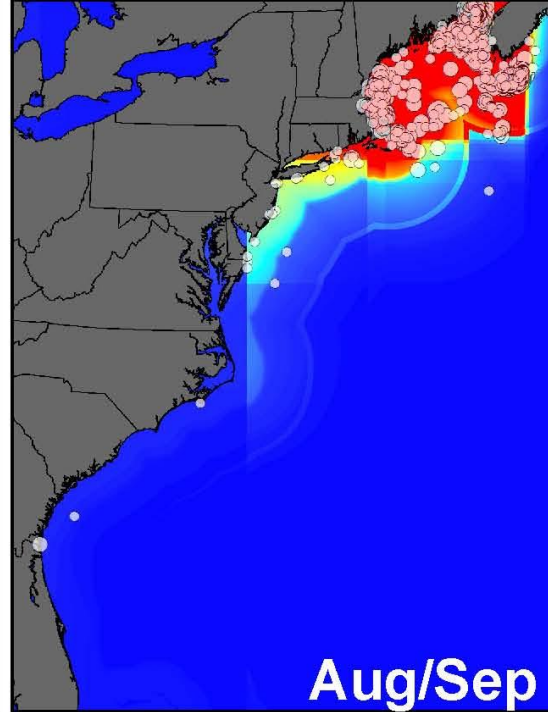
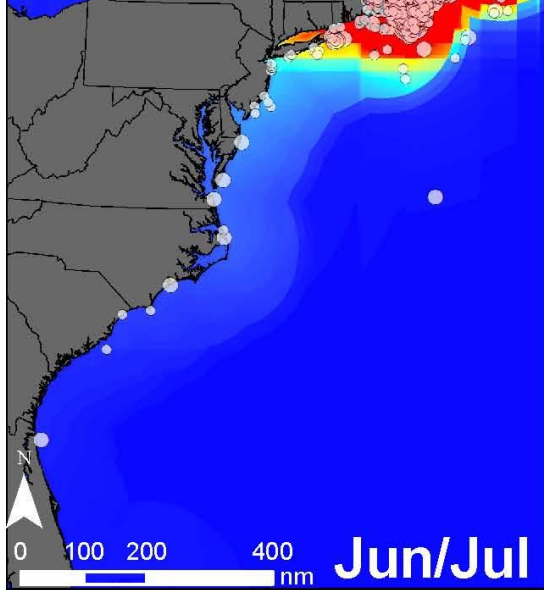
**Right Whale
Sightings per Unit Effort**





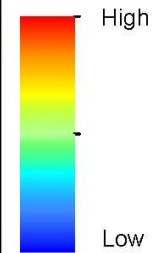
New England Aquarium

Protecting the blue planet

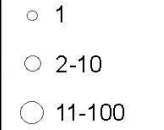


Predicted Right Whale Distribution

Probability of Presence



Number of Right Whales



Output derived from the program 'MaxEnt' using distance to shore, latitude, and longitude as predictor variables.

Data source: North Atlantic Right Whale Consortium Database, 1849-2011

Peak Calving

- ▶ Compilation of visual survey data: 1994–2010
- ▶ Cumulative probability of moms with pre and post calving events
- ▶ Helps identify peak calving times

Proposed Mitigation Measures – Jasny

- ▶ **Key Goal:** minimize activities when whales are most likely to be present

- ▶ **Stoplight Approach**
 - Green Period:** May 1 – October 31
 - Yellow Period:** March 22 – April 30; November 1 – 22
 - Red Period:** November 23 – March 21

- ▶ **Protective Measures**
 - ✓ Seasonal restrictions on sub-bottom profiling & pile-driving for met towers
 - ✓ Vessel speed restrictions
 - ✓ Use of noise-reduction technologies
 - ✓ Exclusion zones
 - ✓ Increased monitoring

Seasonal Restrictions: The Green Period

May 1 – October 31:

Sub-bottom profiling and pile-driving for meteorological tower installation can occur in accordance with the BOEM EA and additional mitigation measures contained in this agreement, as applicable.

Seasonal Restrictions: The Yellow Period

March 22 – April 30 and November 1 – 22:

During this period sub-bottom profiling and pile-driving for meteorological tower installation can occur in accordance with the BOEM EA and additional mitigation measures contained in this agreement, as applicable, provided that the Developer completes a site specific risk assessment to include:

1. an assessment of the potential for Right Whale activity during period of survey
2. an acoustic assessment of the specific equipment to be used
3. a site specific Marine Mammal Harassment Avoidance Plan

Seasonal Restrictions: **The Red Period**

November 23 – March 21:

This period shall be a seasonal exclusion for all pile-driving and sub-bottom profiling activity.

NRDC, CLF, and NWF, and the experts we have consulted, believe that reducing co-occurrence of right whales with the activity is the most essential measure for reducing risk from sub-bottom profiling and pile-driving.

Vessel Speed Restriction

A 10 knot speed limit restriction during the period November 1 – April 30 on all vessels of any length associated with site assessment surveys and site characterization activities, including survey vessels as well as support vessels, operating in and transiting to and from the Wind Energy Area.

Met Tower Construction: Noise Attenuation/ Source Level Reduction Technology

**Applicable only to Met Tower construction during the Yellow Period:
(March 22 – April 30 and November 1 – 22):**

- ▶ The developer shall use the best commercially available technology, such as bubble curtains, cushion blocks, temporary noise attenuation pile design, vibratory pile-drivers and/or press-in pile-drivers, in order to reduce the pile-driver source levels and horizontal propagation, unless such technology is prohibitively expensive for the project.
- ▶ The developer will employ engineering expertise to determine the best available technology for each pile-driving site (or this may be done programmatically for a series of sites) and the engineering analysis and cost analysis shall be made available.

Exclusion Zone

- ▶ A minimum 500m (1640 ft.) radius exclusion zone for all marine mammals and sea turtles shall be established around the sub-bottom profiler, with an exception for bow-riding dolphins.
- ▶ The presumed 500 meter exclusion zone should be confirmed using sound source validation before sub-bottom profiling begins, and the exclusion zone should be enlarged if the 160dB isopleth extends beyond 500 meters from the source.

Real-Time Monitoring Effort: Observers

May 1 – October 31, The Green Period:

- ▶ **Sub-bottom profiling:** Provide 2 dedicated, qualified NMFS-approved visual observers (1 on/1 off) at each sub-bottom profiling site
- ▶ **Pile-driving during meteorological tower installation:** Provide a minimum of 2 dedicated, qualified NMFS-approved visual observers (2 on/2 off with each observer covering 180 degrees from bow to stern) at each pile driving site

Real-Time Monitoring Effort: Observers

March 22 – April 30 and November 1 – November 22, The Yellow Period:

- ▶ **Sub-bottom profiling:**
 - Provide a minimum of 2 dedicated, qualified NMFS-approved visual observers (1 on/1 off) at each sub-bottom profiling site

- ▶ **Pile-driving during meteorological tower installation:**
 - Provide a minimum of 4 dedicated, qualified, NMFS-approved visual observers (2 on/2 off, with each observer covering 180 degrees from bow to stern) at each pile driving site

 - Observers employed during **The Yellow Period** shall have at least one year of experience

Real-Time Monitoring Effort: Visibility

- ▶ Sub-bottom profiling can take place at night if the site specific risk assessment shows acceptable results in night conditions.
- ▶ Pile-driving will not take place at night under normal circumstances.
- ▶ If the exclusion zone is obscured by fog, no sub-bottom profiling or pile-driving activity, including ramp-up, will be initiated until the exclusion zone is visible for 30 minutes.

Real-Time Monitoring Effort: Aerial Surveys During Pile-Driving

During only the March 22 – April 30 portion of The Yellow Period:

During pile-driving, in order to focus effort on detecting right whales as they approach the source on their northward migration, aerial surveys will be conducted on the south side of the acoustic source.

During aerial surveys, the developer will maintain a partially extended exclusion zone for North Atlantic right whales, shutting down if any right whale is observed within the smaller of the 120dB isopleth or 30-kilometer radius around the south side of the source.

Industry Viewpoint – Kenney

“Deepwater Wind is proud to sign this historic agreement to help protect the North Atlantic right whale,” said Jeffrey Grybowski, CEO of Deepwater Wind. “Offshore wind energy is a critical component to our nation's long-term energy security. We have an enormous energy resource right off of our coast and developing it will help preserve our environment and protect species like the North Atlantic right whale. But this energy resource must be developed responsibly, and we are committed to being a national leader in responsible development. This agreement—Deepwater Wind's role in negotiating it—is proof of that commitment.”

Key Concerns Addressed

- ▶ What is required for efficient site assessment and characterization?
 - Preference to avoid bad weather months (good for right whale)
 - Blanket restriction on activities not workable
 - Focused discussions on the need for flexibility

How does this help expedite offshore wind development?

- ▶ Proactive step to remove a potential roadblock to offshore wind development early in the process.
- ▶ The offshore wind industry has been plagued by delays: This agreement helps change the tide, to get *responsible* offshore wind projects up and running faster than in the past.

Approaches for Implementation?



Why isn't this applying to construction?

- ▶ Starting at the beginning of a longer conversation, and we chose to start at the beginning.
- ▶ Different levels of risk necessitate different and more tailored mitigation.

Engaging the Regulators

- ▶ How were government officials consulted?
 - BOEM
 - NOAA and NMFS

Next Steps – Jedele

- ▶ Mid-Atlantic
 - Interested developers
 - DOE-funded demonstration projects
 - State-led surveys
- ▶ Other locations?
 - RI and MA
- ▶ Construction and operation?
- ▶ Coordinate implementation

▶ Thank you!

- Justin Allegro, allegroj@nwf.org
- Michael Jasny, mjasny@nrdc.org
- Tricia Jedele, tjedele@clf.org
- Aileen Kenney, akenney@dwwind.com
- Scott Kraus, skraus@neaq.org