

Questioning the Quest



Sharon B. Young
Marine Issues Field Director



Here's What We Know...

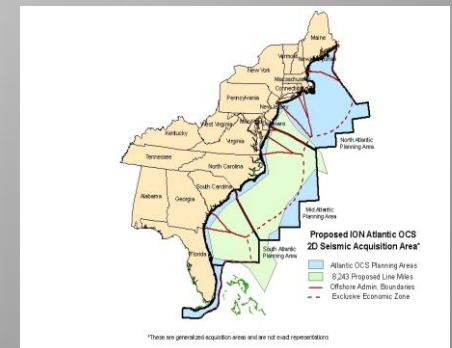
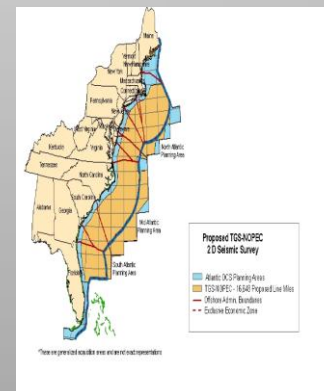
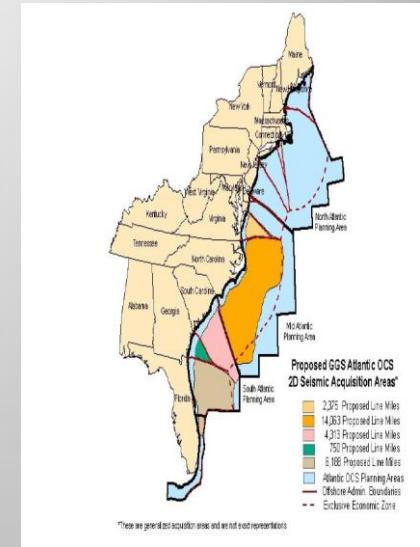
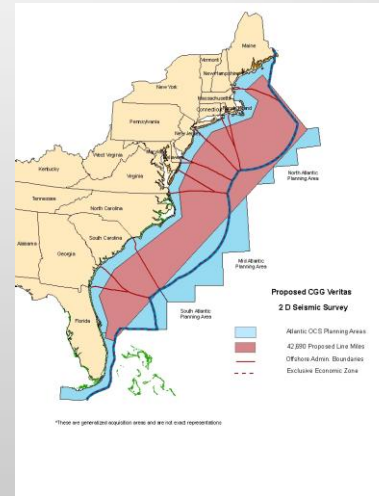
WHO ?

- BOEM's oil and gas, renewable energy and marine minerals extraction programs.
- 9 application received for Atlantic OCS seismic activities

WHAT ?

- Exploration include deep-penetration and high-resolution seismic surveys, electromagnetic surveys, magnetic surveys, gravity surveys, remote-sensing surveys and geological and geochemical sampling.
- Noise of seismic exploration: 190 dB at source (250dB in water); with emissions every 10 seconds, 24/7 for protracted periods
- DOI says exploration could kill or injure 138,000 marine mammals and harass up to 1.3 million more.

WHEN ? Though 2020.



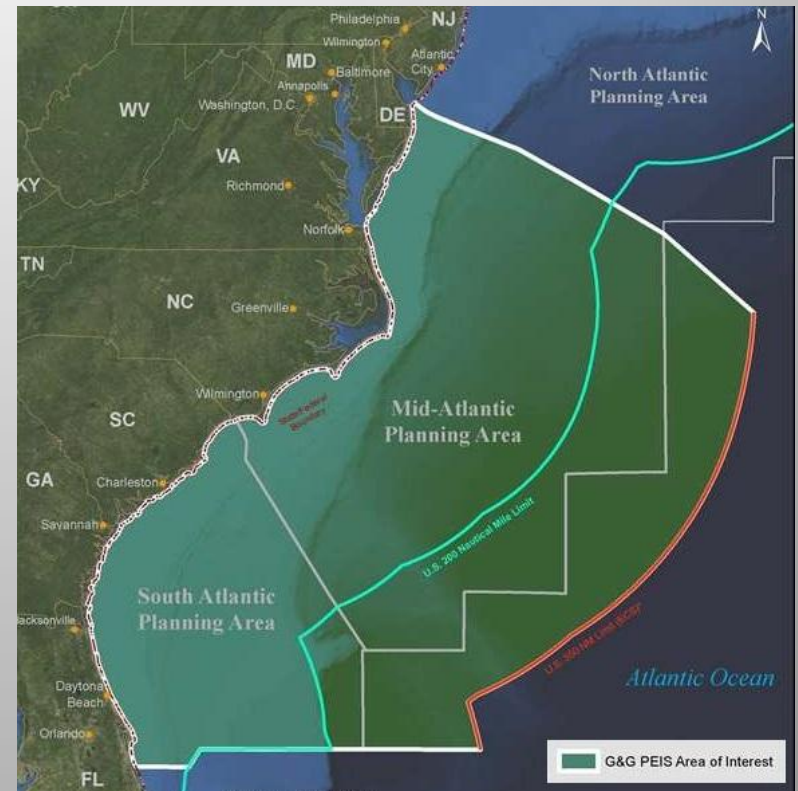
Where ? Why?

Where?

- 9 companies applied for permits to survey a 330,000 sq.mi. area from the mouth of Delaware Bay to Cape Canaveral--twice the size of California.

WHY ?

- Evaluating suitability for: oil and gas development, renewable energy, and marine minerals extraction.



Concerns

- **Concern for possible impacts to ecosystem and marine life of eventual drilling and production that might start in 2017 if deposits are identified. Besides Deepwater Horizon at least 8 other spills of >50,000 gallons have occurred since 2005.**
- **Tidal energy and issues of displacement or entrainment are poorly studied with species here.**
- **And then there is wind energy which can have impacts on marine mammals from both construction and operational phases (more on that later)**

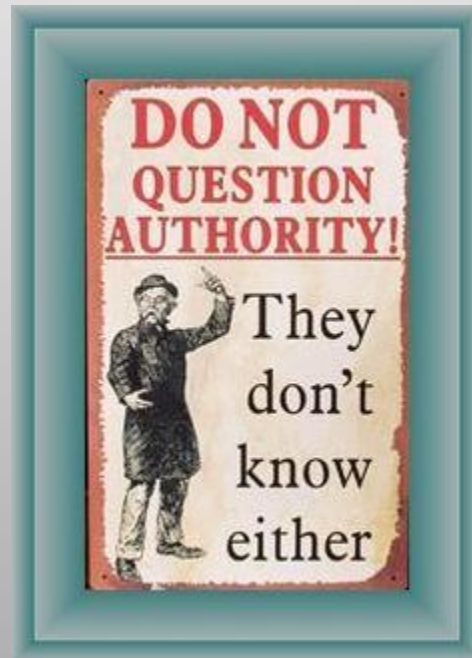


Mitigation Concerns with Offshore Energy G &G



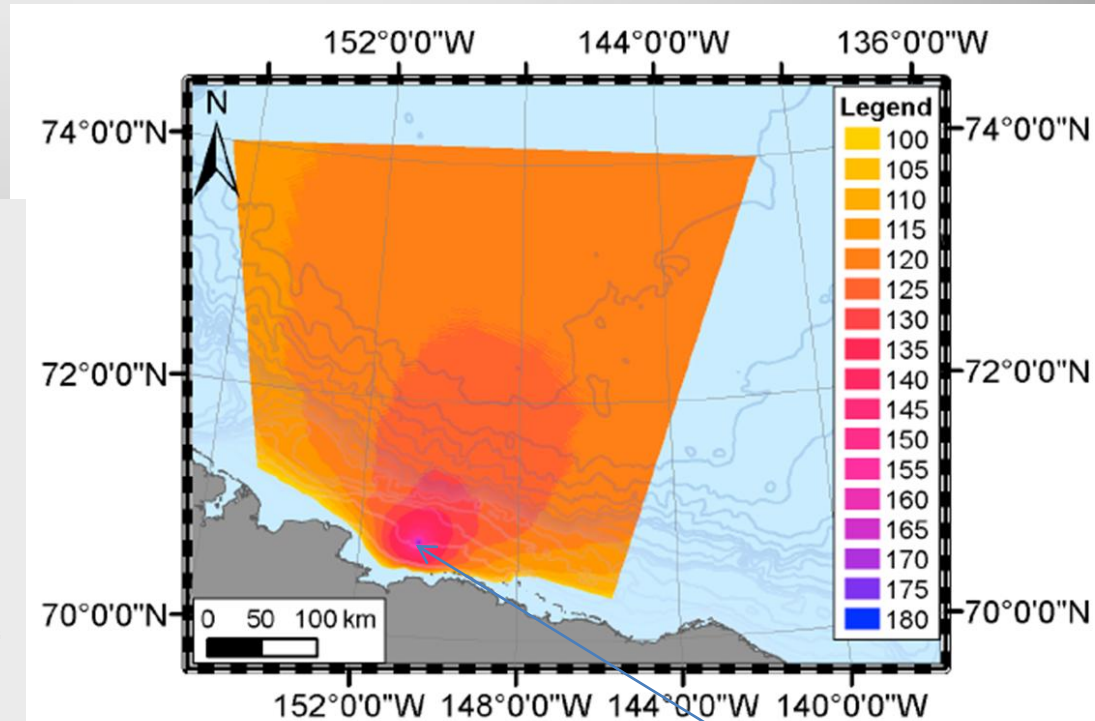
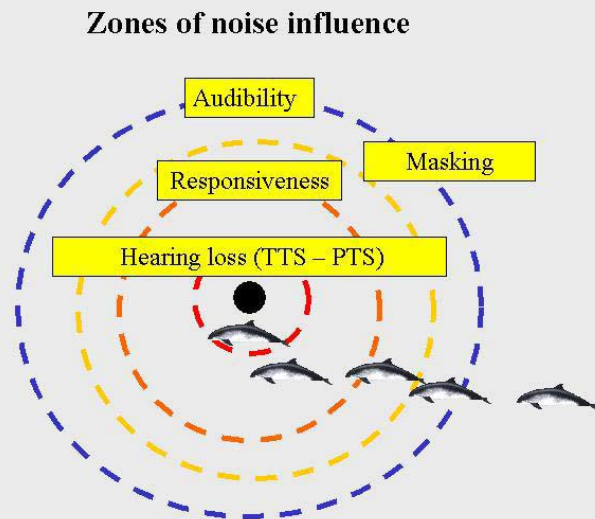
- Seismic transects are spaced 25nmi. apart during simultaneous testing. This is inadequate for highly mobile and migratory species who may be trying to flee the sound.
- Mitigation measures designed to provide seasonal protections for right whales and turtles ignore the lack of congruence with other species' habitat use and differences in hearing sensitivity or behavioral ecology.
- In February, a letter was sent to the Obama administration by 100 scientists asking to delay the exploration until NMFS finalizes acoustic guidelines for marine mammals.
- There is a reliance on displacement as mitigation rather than considering that displacement is an adverse impact in and of itself.
- And that takes us to the "D" word.....

Which gets us into what we
DON'T Know...

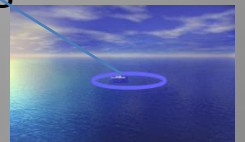


Hearing damage: not the only concern

Zones of noise influence (after Richardson et al. 1995).



Scenario of expected loss from a single seismic airgun shot in Harrison Bay, North Slope, Alaska, integrated over 1 sec.



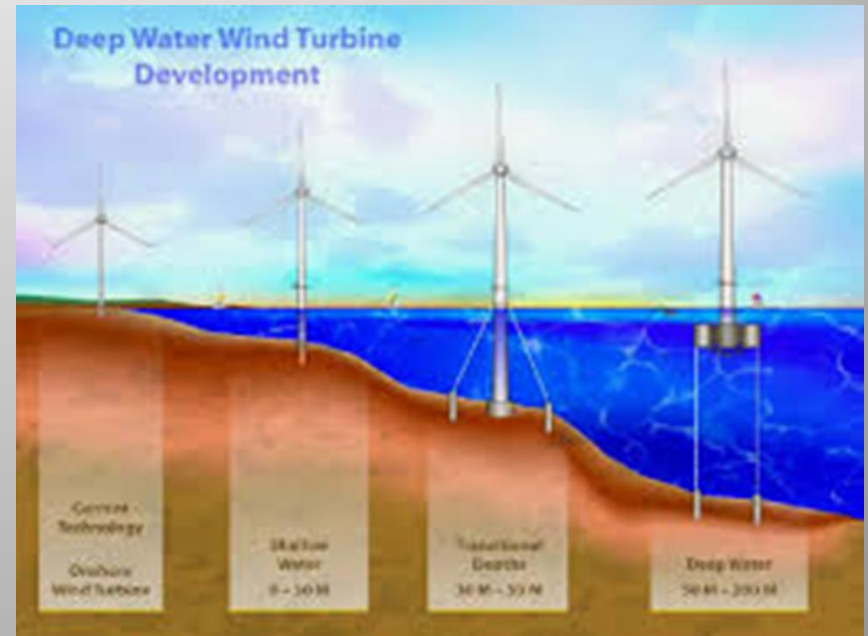
Analysis of Impacts has been Severed

- The purpose of these site assessment actions is to “assess the feasibility of developing renewable energy resources,” [Various EAs] and NEPA requires consideration of “reasonably foreseeable future actions.”
- Under NEPA agencies must analyze “connected actions,” that is “[c]annot or will not proceed unless other actions are taken previously or simultaneously” that depend on larger actions for their justification. This is to prevent agencies from dividing a project into multiple actions, each of which individually has an insignificant environmental impact, but which collectively have a substantial impact.” Great Basin Mine Watch v. Hanks, 456 F.3d 955, 969 (9th Cir. 2006)



No Information on Anchorage

- Pile driving of monopoles is well studied.
- Monopoles are not the only type of structure under consideration
- Responses to a maze of cables are unknown but may cause animals to divert around the site.
- The transmission of operational noise through cables not well understood

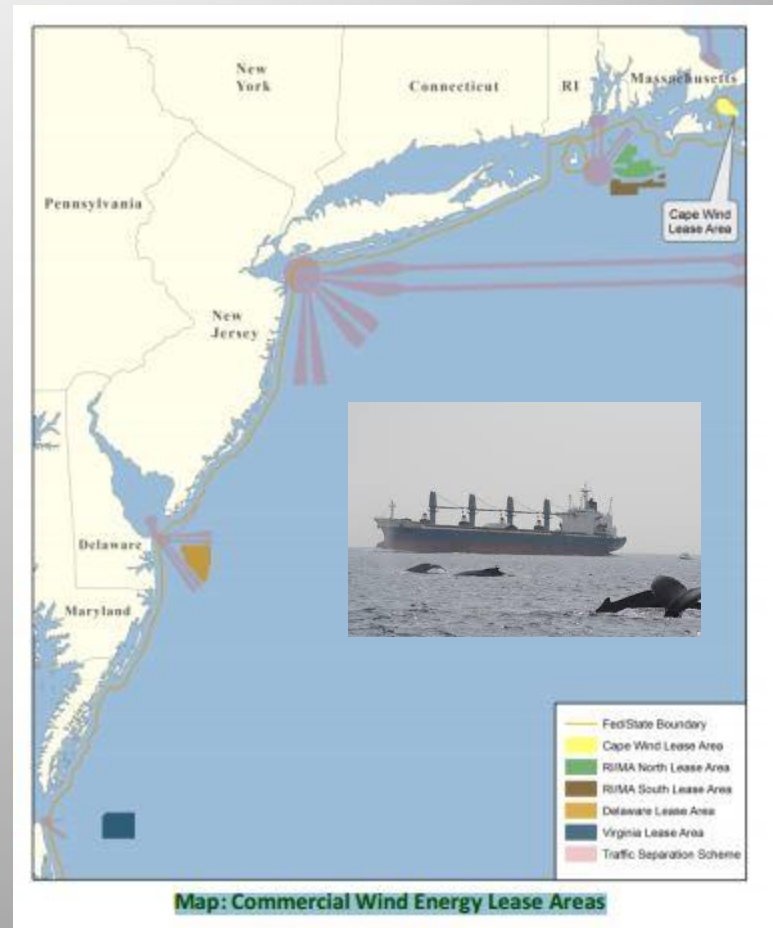


Impact Info from Europe for Different Species and Complexes

- **Studies with Porpoises show displacement during construction but eventual return in differing densities—some greater or lesser that may be influenced by artificial “reefs”**
- **Seals only temporarily affected**
- **No large whales, dolphin species or turtles were assessed and their acoustic sensitivities and behavioral ecology are markedly different.**



Displacement May Increase Collision Risk to Endangered Whales



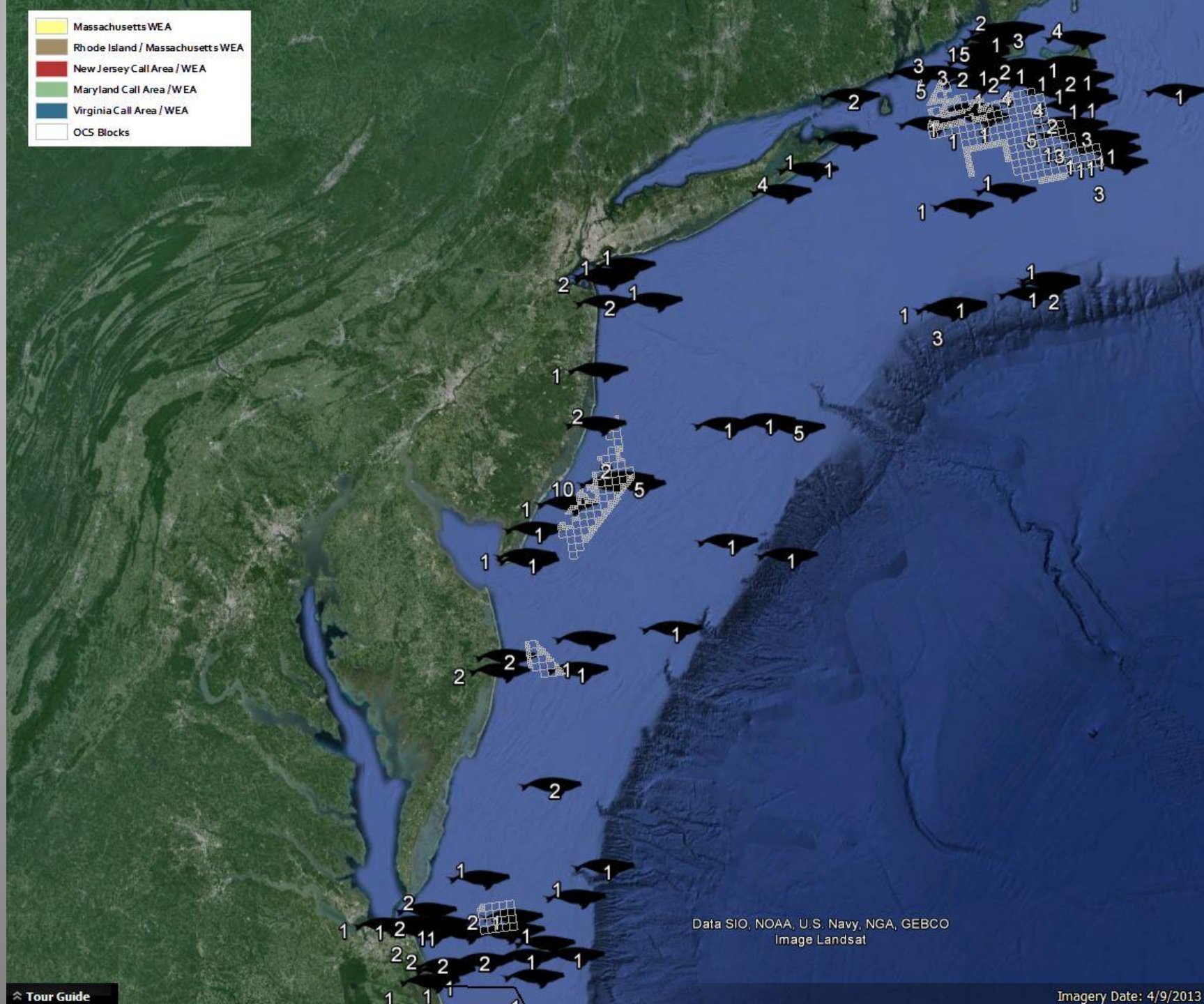
Displacement may increase risk of entanglement in gear used by nearby fisheries



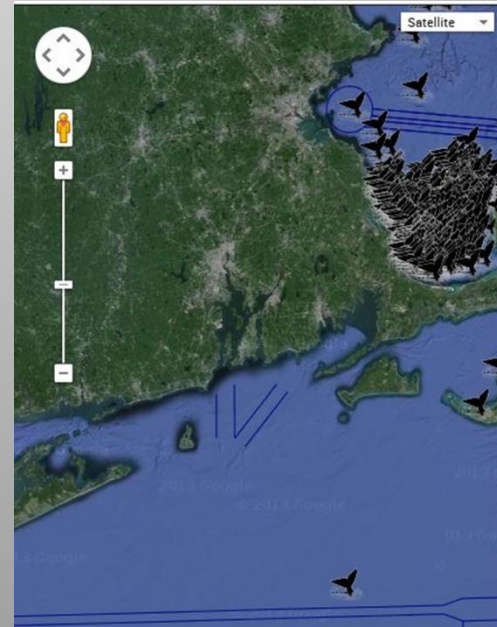
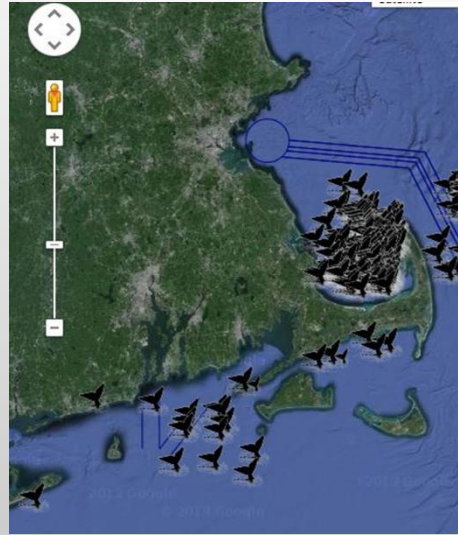
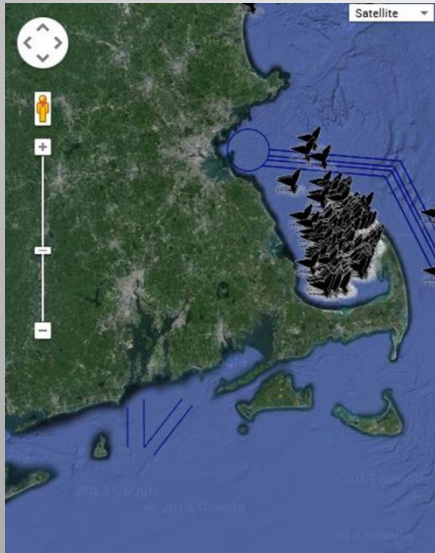
- Entanglement in fisheries is a leading cause of death in large endangered whales.
- The origin of most entanglements is unknown.
- Unlike land-based wind energy, we won't be able peg a body to the source of its death.
- This may result in a rosier picture of effects than is warranted.



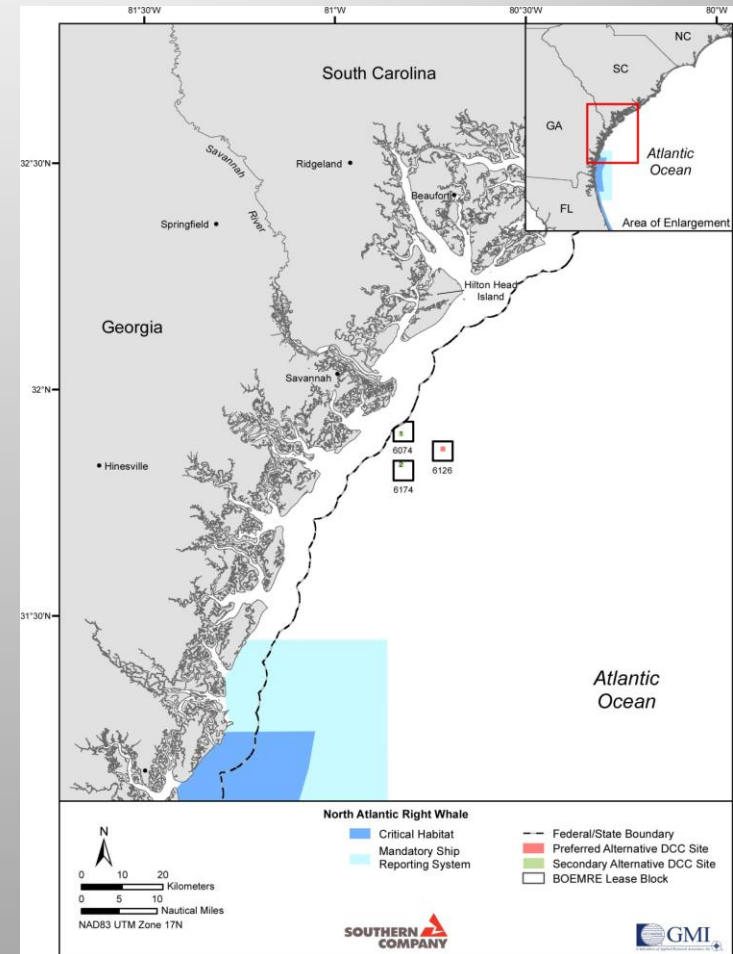
- Massachusetts WEA
- Rhode Island / Massachusetts WEA
- New Jersey Call Area / WEA
- Maryland Call Area / WEA
- Virginia Call Area / WEA
- OCS Blocks



Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat



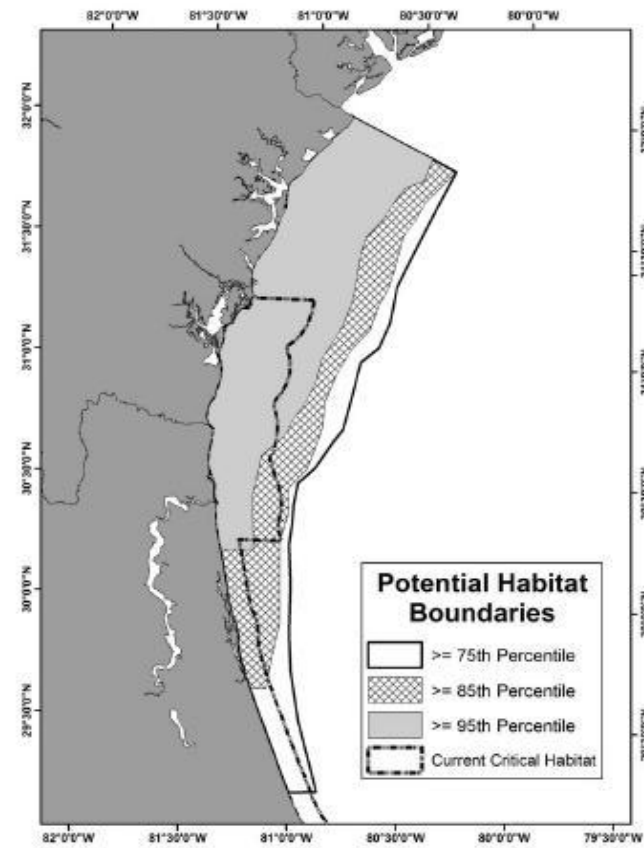
Tybee Island Sites and Right Whales



Within Boundaries of Updated Critical Habitat

(Keller et al., 2012)

Figure 19. Potential static critical habitat boundaries based upon percentiles of predicted SPUE. The currently defined calving habitat boundary is shown as a dotted line.



Why is this area different ?

- Sightings of mothers and newborns indicate that calving grounds“ may extend as far north as Cape Fear” 2012 stock assessment
- NMFS: within a “substantial and core portion of the right whale calving area.” 72 F.R.. 34632,34636 (June 25, 2007)
- BOEM: within “[t]he winter calving grounds and a segment of the migratory corridor are located within the proposed lease area.”[EA]
- BOEM: calving extends through North Carolina, though with highest densities off the coasts of Florida and Georgia.
- MMS: Mitigation for lease sites should include “*avoidance of mating, feeding, and calving areas...*” (MMS, 2007 PEIS)
- Proposed boundary expansions by Garrison (2007) and Keller et al, 2012 would extend protections into this area.



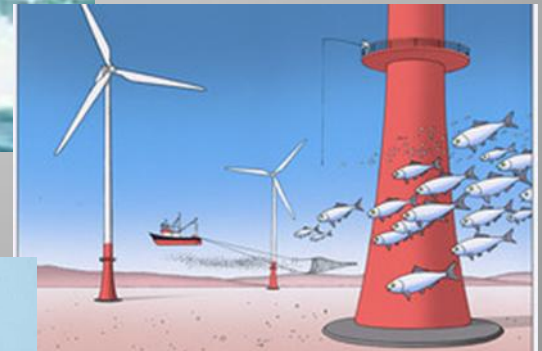
Photo: NEAq

Given the unknowns regarding short and long term impacts, including displacement from the only known calving area of a critically endangered species:

**WHERE IS IT *NOT* OK TO SITE AN
COMMERCIAL WIND ENERGY PLANT ?**

What is Missing but Needed

- Consideration of the “foreseeable impact” of commercial wind farm construction and operation.
- Noise simulation trials and/or modeling response to noise from operation.
- Analysis of possible adverse impacts of displacement.
- Focal, multi-year and longitudinal research as is required in Denmark and Germany.
- Consider less risk-prone areas before areas with higher risk if there are adverse impacts.



Try to Live up to the Slogan “Smart from the Start” so Siting and Operational Mistakes from Land aren’t Repeated in the Ocean



Thanks to: Oceana, NRDC, Whale and Dolphin Conservation Society for assistance with information and slide preparation

