

Wind Energy off LBI

Impacts on Endangered Whales

The LBI Coalition for Wind Without Impact

www.SaveLBI.org

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Endangered
whales will be
greatly
disrupted in
current lease
area



The current project area-Impacts on Endangered Whales

Endangered Whales:

- The migratory path of the critically endangered North Atlantic Right Whale intersects the outer part of current project area^(W1)
- A higher density of endangered Fin and Humpback whales exists in the inner part of current project area^(W7)
- Whale's normal migratory, foraging, mating behavior is disrupted by operational noise levels above NOAA's criteria of 120 decibels(db).
- Larger "gearbox" turbines will exceed that throughout the project area
- Inner and outer turbine exclusion zones are required for operational noise protection^{(W2) (W3)}
- With both exclusion zones, the entire 10 to 20 mile project area is unsuitable for turbines

Birds:

- The "threatened" Piping Plover will have to cross the current project area^(PP1) to get to its nesting sites in Holgate and Barnegat Light
- Potentially high fatalities^(PP2)



Want to know more about the North Atlantic Right Whale?

- Endangered North Atlantic Right Whales are struggling to survive.
- Current population: ~360
- Migratory path and feeding grounds lie within Atlantic Shores lease area, which directly impacts their survival.
- *Recent study indicates human induced stressors are stunting growth of Right Whales
 - Scientists have observed 5–10-year-old whales about the size of 2-year-old whales
 - An 11-year-old whale observed was the same size as 1.5-year-old whales
- This is reducing their ability to reproduce, which may drive the species into extinction.



- If human-induced stressors, including noise, are not lowered -- or if they increase with gearbox turbines - - the Right Whales' chances of survival will continue to decline & their extinction will likely accelerate
- Stressors include:
 - Undersea construction to install turbines
 - Once operational, wind turbines will generate substantial ongoing operational noise
 - This will impact not only Right Whales, but also many other marine mammals who are hyper-sensitive to noise and electromagnetic waves

Impact of turbine Noise from larger, gearbox turbines on Endangered Whales

- BOEM previously dismissed operational noise as a problem for endangered mammals
 - But they used smaller less noisy turbines in the Vineyard Wind 1 EIS with source levels of 137 decibels (dB)
- Larger 13.6 megawatt(mw) “gearbox” Vestas-236 turbines to be installed off LBI
 - Source noise levels for 10 mw gearbox turbines predicted at 177 db ^(W2)
 - 40 db higher & 10,000 times* more intense than noise from the smaller turbines.
 - For 13.6 mw turbines, source level predicted to be 180 dB, Reference W2, Figure 1.
- It takes 6 miles ^{(W2)(W3)} for a 180 dB source noise level to get below the 120 dB NOAA criterion for disrupting marine mammal behavior ^{(W4),(W5),(W6)}.
- Turbines to be placed ~ 1 mile apart, so 120 dB will be exceeded everywhere in the project area
- The Right Whale’s migratory path starts at the 20 mile project boundary and extends 12 miles ^(W1)
 - A 6 mile buffer is needed for noise level reduction to avoid noise disruption during its migration
- Therefore, must exclude turbines beyond 14 miles (20-6) boundary to avoid exceeding the NOAA criterion
- Similarly, fin and humpback whales frequent the inner project area, 11.5 miles out ^(W7) requiring that turbines be placed no closer than 17.5 miles(11.5+6) to avoid disrupting them.

With both the inner and outer exclusion zones, there is no room for wind turbines in the current lease area .

* Decibels are a logarithmic scale; +10 db = 10 times the sound intensity

Right Whales: See them yourself...



<https://youtube/byEIUwZZIWw>

The Fin Whale

- Second largest whale in the world after the Blue Whale.
- 19 to 25 meters (82 ft) in length.
- May live more than 75 or even 100 years.
- Their population is on the decline due to growing fishing and shipping traffic populations
- Currently ~ 80,000 world-wide today.



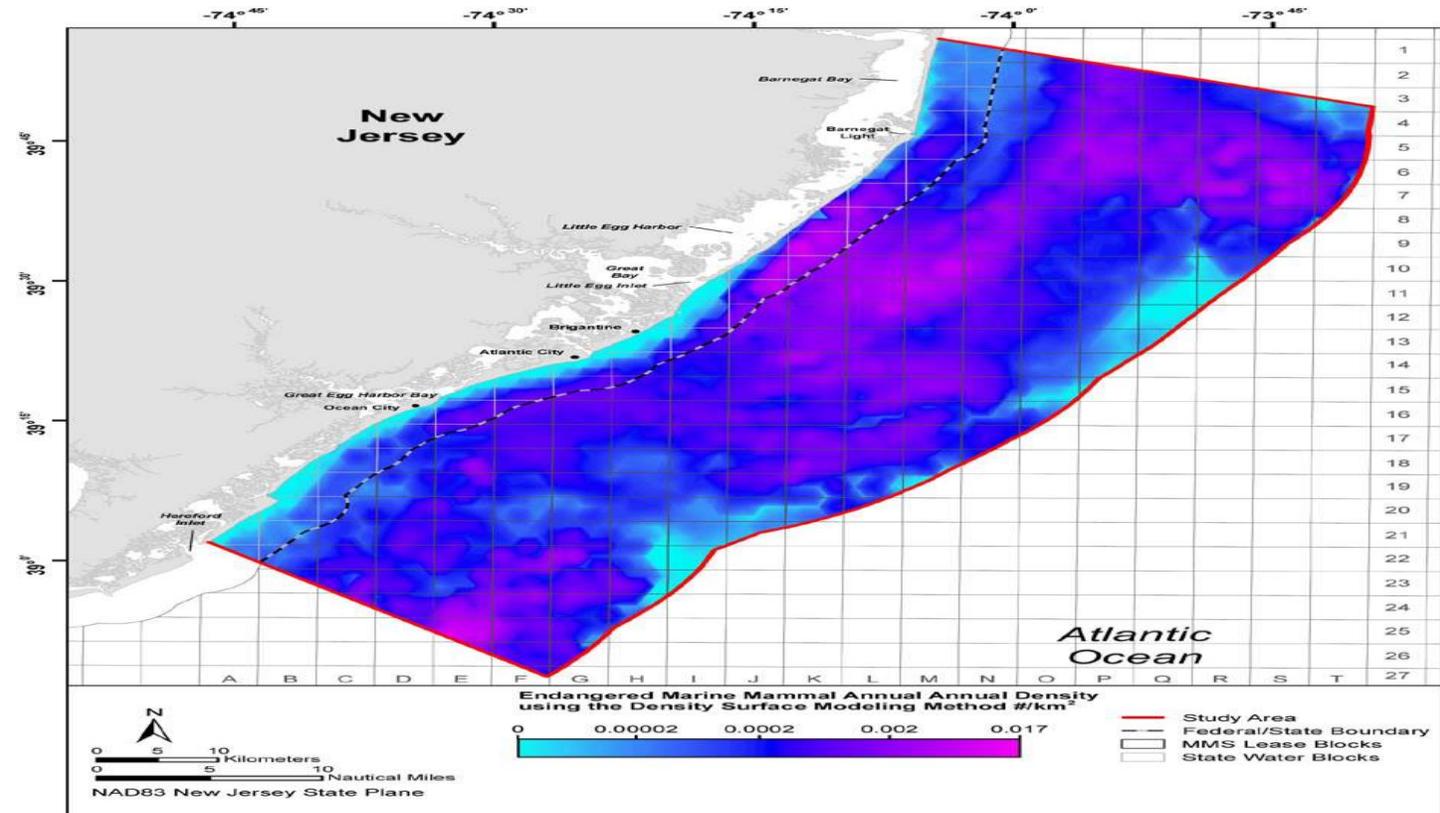
The Humpback Whale

- Gets its name from the way it arches out of the water before diving
- Grows up to 18 meters (60 ft) in length and weighs 30 to 50 tons.
- Vulnerable to entanglement
- Population just now beginning to rebound.
- Must keep it that way



Fin & Humpback whales exist in higher density 11.5 miles from LBI coast^(W7)

- Fin & Humpback whales exist 1.5 miles into current lease project area
- 4 mile buffer needed for noise reduction, similar to that for Right Whale



Therefore, we must also exclude turbines 5.5 miles from the *inner* lease area to avoid exceeding NOAA noise criterion for Fin and Humpback whales.

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