



Offshore Wind Turbines: Impacts on Marine Life and Habitat

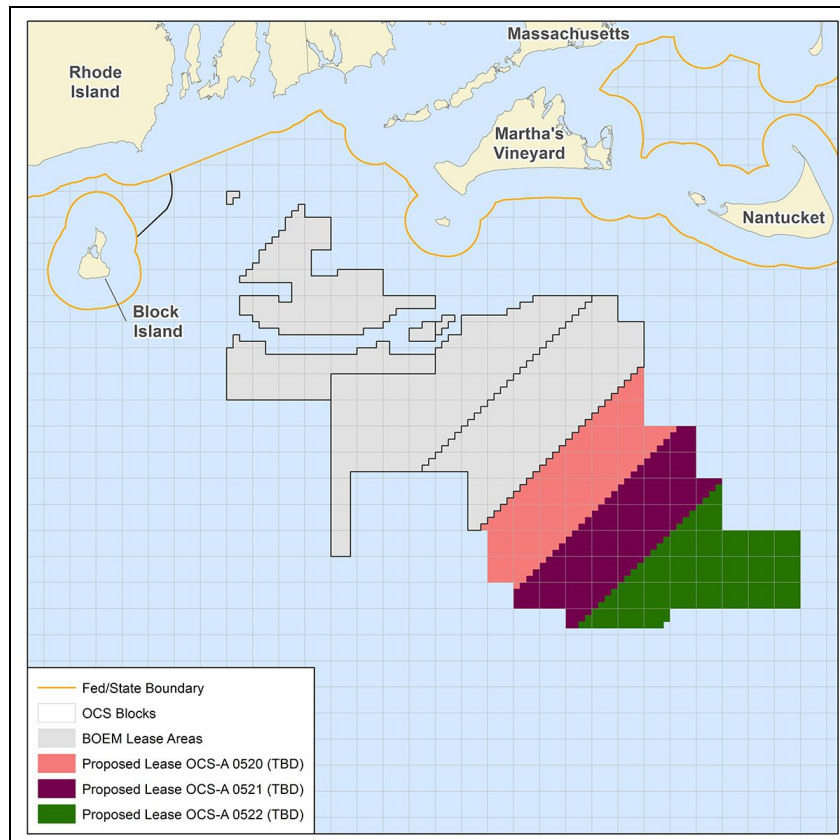
Long Island Commercial Fishing Association

Prepared by Bonnie Brady, CEO

March 15, 2019, **Draft 2**

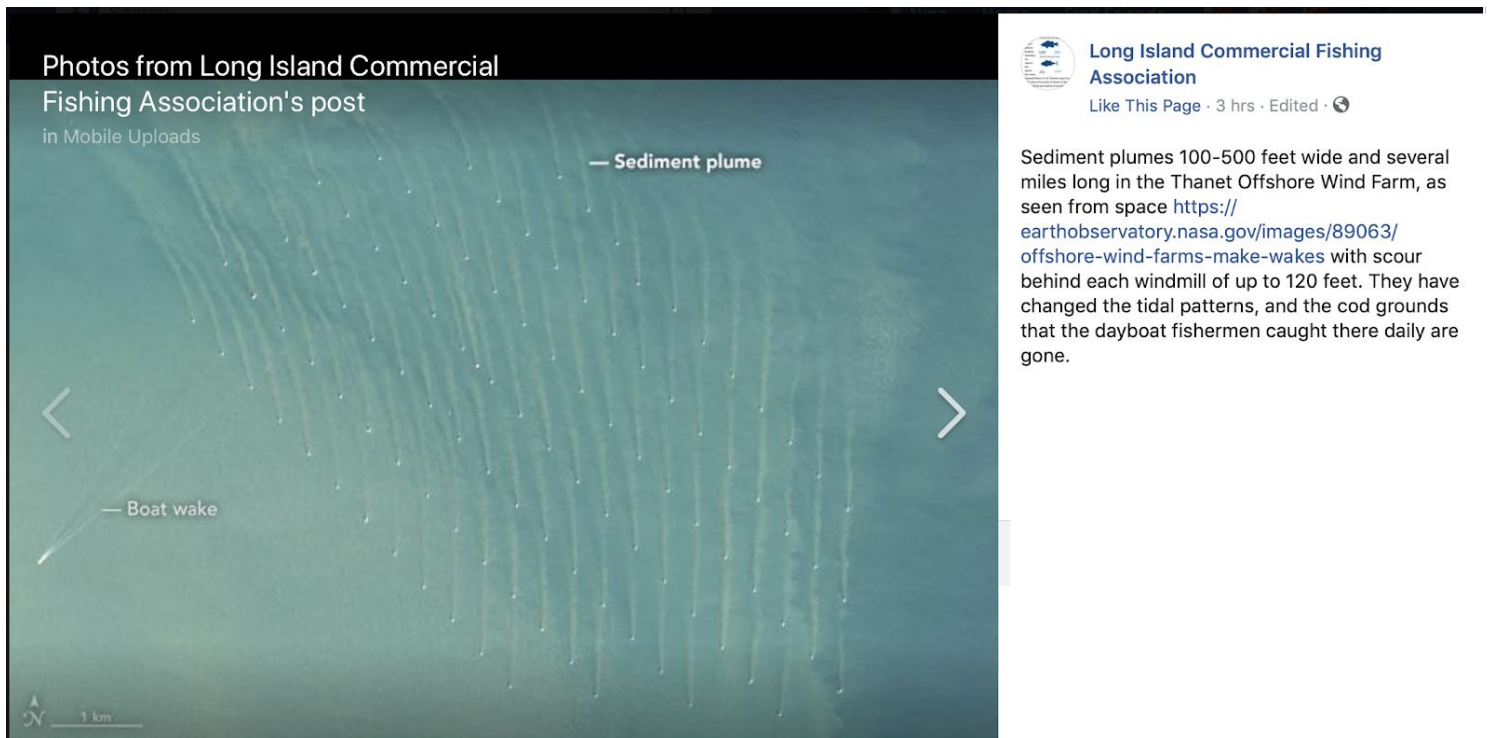
Reprinted from the Long Island Commercial Fishing Assoc. Facebook page (click [here](#))

For those who may forget why we oppose the present offshore wind policy of BOEM (Bureau of Ocean Energy Management within the US Dept of Interior), a quick refresher. Please share for those who are unaware of the biological harm to the ocean and its denizens below the water line.



Pile driving creates high levels of sound pressure and acoustic particle motion in the water¹ and is required to anchor windmill foundations into the seabed, with decibel levels up to 220 dB which can maim and kill fish with swim bladders² — not just for the individual strike effect but cumulatively,³ while causing mortality for other species (see Michel André) and marine mammals (see draft acoustic guidance, NOAA).⁴

Dredging and jet plowing the ocean floor (for laying gravity foundations and to lay submerged cables) creates destruction of the ocean floor, sedimentation, silt and, with the added effect of tide, scour.



In Thanet, England, in a similar seascape to the Northeast, “scour” of up to 40 meters behind each windmill occurred. See satellite image, above.⁵ The widespread sedimentation and silt kills larvae, young fish, destroys benthic habitat and in some cases permanently alters it.⁶

¹ Andersson: <http://www.diva-portal.org/.../get/diva2:391860/FULLTEXT01.pdf>

² See NOAA Ocean Noise Strategy Map: <http://cetsound.noaa.gov/road-map>

³ Halvorsen: <http://journals.plos.org/plosone/article...>

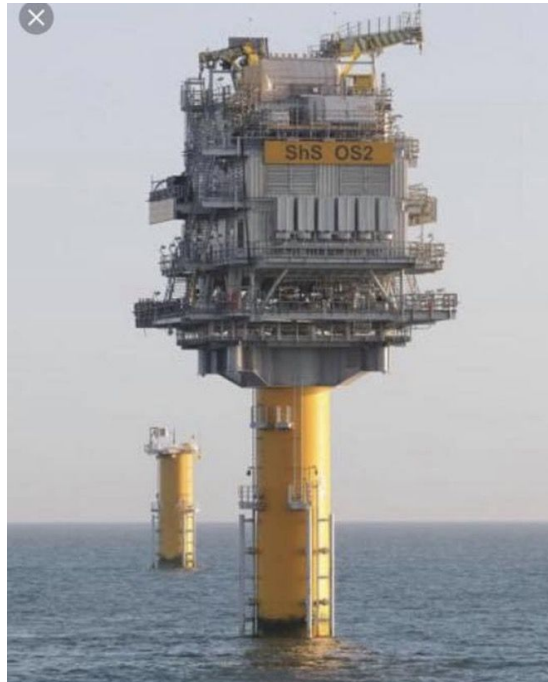
⁴ See http://blogs.nature.com/.../squid_and_octopuses_traumatize.ht...

⁵ See <https://earthobservatory.nasa.gov/.../offshore-wind-farms-mak...>

⁶ Hammar et al.: <http://www.naturvardsverket.se/.../publ.../978-91-620-6367-2.pdf>

Submerged cables emit low-level electromagnetic frequency (EMF) and magnetic fields that repel certain fish (e.g., cod), attract others (e.g., elasmobranchs: sharks and skates), and affect migratory patterns and the ability to “source” food if dependent on electric cue for prey.⁷

The beasts, below, are called Electrical Service Platforms (ESP). Last look, the developer, DWW/Ørsted, wanted at least one maybe two on the site within Cox’s Ledge (in yellow on the map attached below)



Vineyard Wind’s COP (construction and operation plan) wants four. Guess what they and the turbines are filled with? Oil, some have called it a synthetic mineral oil but according to their COP it’s more than just that.

In its “*Draft Construction and Operation Plan: Oil Response Plan*,” vol. 1, p. 1 (Oct 22, 2018), VW states the amount of oil that will be within the WEA (Wind Energy Area) could surpass 700,000 gallons, including the Electrical Service Platforms, (ESPs) if four ESPs are built. (See below.⁸)

⁷ See Gill et al.: http://seagrant.gso.uri.edu/.../prese.../present_gill_europe.pdf; EMF Field Study: <https://ir.library.oregonstate.edu/.../1-Effects-of-electroma...>; Ospar 2010: http://qsr2010.ospar.org/media/assessments/p00437_Cables.pdf; Ospar 2008: <https://www.ospar.org/documents?v=7128>.

⁸ Taken from <https://www.boem.gov/Vineyard-Wind-COP-Volume1-Complete/>

Vineyard Wind, LLC
Oil Spill Response Plan

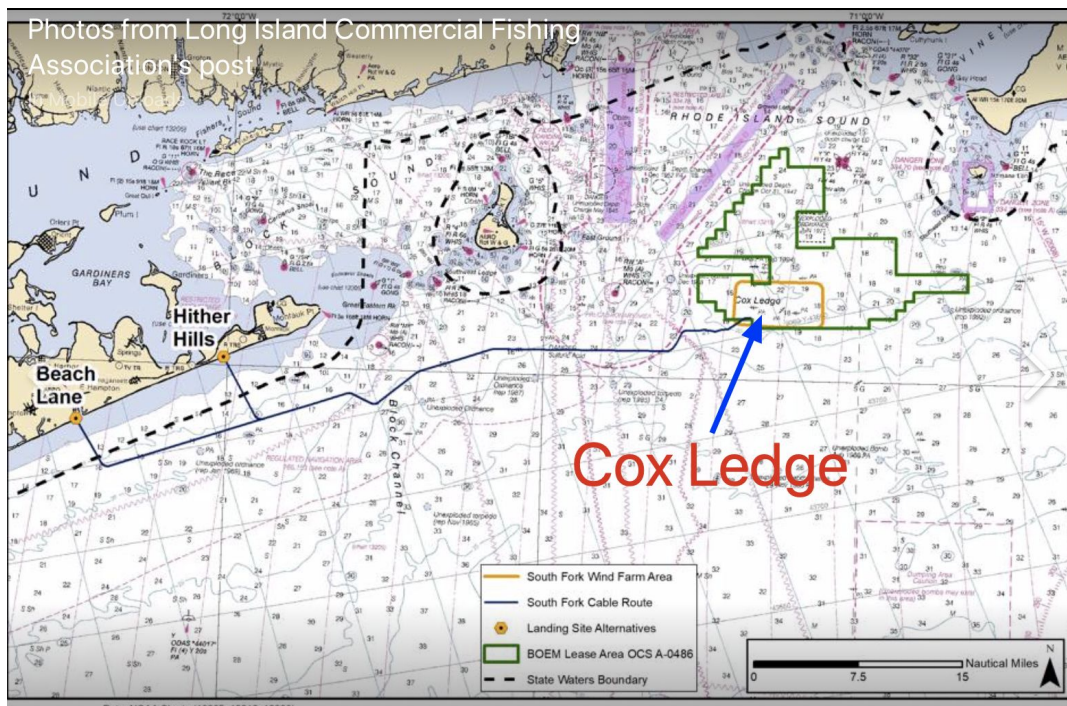
1. Plan Introduction Elements

1.1 Purpose and Scope of Plan Coverage

This Oil Spill Response Plan (OSRP) has been prepared for Vineyard Wind, LLC for the development of “the Project”. The Project is located in the Bureau of Ocean Energy Management (BOEM) Lease Area OCS-A 0501, which is located approximately 14.4 miles south of Martha’s Vineyard, a Massachusetts island located approximately 4 miles from mainland Massachusetts. The Project is an ~800 MW project that consists of wind turbine generators (WTGs) and associated foundations, onshore work, inter-array and inter-link cables, export cables, and either one 800 MW electrical service platforms (ESP) or two 400 MW ESPs. Oil sources in the WTGs include gear boxes, transformers, yaw gears, grease for yaw rings, and the pitch system, which total approximately 4,502 gallons per WTG. Oil sources in the ESPs include lubrication oil, diesel tanks, hydraulic oil for a platform crane, power transformers, reactors, and auxiliary/earthing transformers. Oil sources presented in this document are associated with the single largest ESP, which is the 800 MW ESP. The oil sources associated with one 800 MW ESP total approximately 124,097 gallons.

The Vineyard Wind site along with their turbines and ESPs would total over 700,000 gals. of oil and other lubricants in one of the most pristine places where fish, right whales and other marine mammals congregate, and where fishermen catch sustainable squid, scup, butterfish, ling and whiting among other species.

The map of the Rhode Island and Massachusetts Wind Energy Areas encompass 1400 square miles of ocean bottom — more than 1.4 times the size of the entire State of Rhode Island. Just slightly under three quarters of the size of the entire State of Delaware.



Addendum: NOAA yesterday extended the voluntary ship slowdown site south of Martha's Vineyard and Nantucket for Right Whales again, until March 29, 2019 because a pod continues to feed in the area. Guess the whales missed the memo that their feeding grounds will be disturbed starting this summer for VW survey boats that, at low frequency with side-scan sonar and chirpers, will 24/7 blast the area with sound that could cause permanent temporal shifts in hearing, aka deafness, and harass them, upsetting their breeding, feeding and migration patterns and masking their communication.

(There's a slide, specific to the whales, on the photos.⁹ The map shows Right Whale sightings since January 1, 2019.)



 **Long Island Commercial Fishing Association**
Like This Page · 3 hrs · Edited · 

Radar scatter from windmills 0.7 nm apart in Thanet England. The interference from the magnets within the windmills themselves when they spin create false radar impressions, ghost turbines, on the radar itself.

⁹ Click on the link, <https://www.nefsc.noaa.gov/.../surv.../MapperiframeWithText.html>, and you can click on the whale tail and see the specifics.