



*Ocean Advocacy
Since 1984*

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July 21, 2023

Jolie Harrison, Chief
Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910

RE: Incidental Take Authorization: Vineyard Wind Northeast, LLC' Marine Site Characterization Surveys off New Jersey and New York (2023) for Vineyard Wind Northeast and Vineyard Wind Mid-Atlantic Offshore Wind Projects, Docket No. RTID 0648-XD032

Dear Chief Harrison:

Clean Ocean Action (“COA”) is a regional, broad-based coalition of conservation, environmental, fishing, boating, diving, student, surfing, women’s, business, civic, and community groups with a mission to improve the water quality of the marine waters off the New Jersey/New York coast. COA submits the following comments to the National Oceanic and Atmospheric Administration’s (“NOAA”) National Marine Fisheries Service (“NMFS”) in opposition to the request for an Incidental Harassment Authorization (“IHA”) from Vineyard Wind Northeast (henceforth, the “Applicant”) for marine site characterization surveys on the Outer Continental Shelf in **two separate** federal offshore Lease Areas – OCS–A 0522 and OCS–A 0544 – and associated offshore export cable corridor (OECC) routes. The activities proposed are for the development of **two** offshore wind (“OSW”) energy power plants off the coast of New Jersey and New York.¹

The IHA request, if approved, would authorize the “takes” of marine mammals by “Level B harassment” over the course of one year, with the possibility of a one-year renewal for the IHA. According to the Public Notice, “Underwater sound, resulting from Vineyard Northeast's activities, has the potential to result in incidental take of marine mammals in the form of Level B harassment.”² Clean Ocean Action has concerns about the impacts, especially cumulative, of the numerous and concurrent incidental take authorizations being requested, reviewed, and issued for offshore wind preconstruction and construction activities off the New York and New Jersey coast, as well as entire East Coast of the United States.

¹ Department of Commerce National Oceanic and Atmospheric Administration, “Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Site Characterization Surveys Offshore From Massachusetts to New Jersey for Vineyard Northeast, LLC, [RTID 0648–XD032], Federal Register, Vol. 88, No. 118, June 21, 2023, page 40212.

² See *id.*

From the outset, it is shocking that the NMFS is moving aggressively forward reviewing and issuing IHAs, as well as Incidental Take Regulations (“ITR”) and associated Letter of Authorizations (“LOA”), with little to no baseline assessment of marine mammal studies in the region. The New Jersey Department of Environmental Protection (NJDEP) has just recently authorized a marine mammal monitoring plan for whales. The absence of baseline data will result in the absence of good science. Indeed, National Marine Fisheries Service (“NMFS”) agency officials are also frustrated: “ ‘We’re building this ship as we’re sailing it,’ NMFS scientist Andrew Lipsky said last October at a conference on wind power. ‘When we don’t think through the science, we often get ourselves in trouble.’ ”³

This current IHA request, if approved, would allow the Applicants to “take” or “harass” **9,711 marine mammals** by “Level B Harassment” during the pre-construction activities for offshore wind in two lease areas. According to the Federal Register notice for the IHA request, the marine mammals included in the proposed take amounts are of **19** different species and include the following endangered species:

- North Atlantic right whale: 40
- Fin whale: 77
- Sei whale: 5
- Sperm whale: 12.⁴

Per the Marine Mammal Protection Act (“MMPA”), other federally protected whales in the Applicant’s proposed take amounts by Level B harassment include:

- Humpback whales: 47
- Killer whales: 4
- Minke whales: 42
- Common bottlenose dolphins (offshore and coastal): 214
- Atlantic white-sided dolphins: 129
- Common dolphins: 7,472
- Harbor porpoise: 2,033
- Gray seals: 418
- Harbor seals: 939
- Harbor porpoises: 347, and
- other protected dolphins and porpoise species.⁵

COA maintains that these takes do not represent a “small number,” especially for species such as the Common Dolphin with 4.3 percent of its population being affected by these proposed takes, along with 5.9 percent of the population for Killer Whales, and 3.6 percent of the population of

³ Sennott, Will and Anastasia Lennon. “Blown Away: Fishermen Endangered by Offshore Wind’s Political Power.” The New Bedford Light, April 18, 2023, <https://www.propublica.org/article/fishermen-endangered-offshore-wind-political-power>.

⁴ Department of Commerce National Oceanic and Atmospheric Administration, “Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Site Characterization Surveys Offshore From Massachusetts to New Jersey for Vineyard Northeast, LLC, [RTID 0648–XD032], Federal Register, Vol. 88, No. 118, June 21, 2023, page 40212.

⁵ See *id.*

the critically endangered North Atlantic right whales. In addition, for Killer whales, the proposed takes are proposed, yet it is unclear how the percentage of population that will be affected by takes can be calculated if the abundance for this species is noted as “unknown.”⁶

Also, COA notes that this application to take marine mammals is in addition to the Applicant’s previous take authorization for preconstruction work issued in 2022. COA provided comments on the Applicant’s previous IHA request in 2022,⁷ noting concerns and urging NOAA to deny the IHA request. It is curious that, according to the Applicant’s monitoring report, this previously issued IHA recorded no takes throughout the course of the survey period.⁸ This is even more confounding since there is a lack of standardization for Protected Species Observers (“PSO”), which could result in differences in the take responses recorded by PSOs. The monitoring report states, “behavior observations indicating harassment include: consistent with a behavioral response to harassment (i.e., rapid swimming away from the sound source or vessel; repeated fin slaps or breaches; notable changes in behavior as a result of vessel approach,”⁹ In 2013, already a decade ago, a federal report provided recommendations for national standards for PSOs and data management related to geological and geophysical surveys, the activities the Applicant will be conducting. The report “provides recommendations for the Protected Species Observer and Data Management Program (PSO program) for marine geological and geophysical (G&G) surveys, and recommended actions on key issues for the establishment and management of such a program.”¹⁰ Have these recommendations been adopted or formally approved by NOAA? If so, when were they formally adopted and/or approved? How was the public able to review and comment on these recommendations? How have they been incorporated into the take authorization process? How are they monitored for compliance? Based on the report’s recommendations for what PSOs should record about species observed, it is improbable that no takes occurred with the 19,934 marine mammals the Appliance was authorized to take. COA notes here that the recommendations for what PSOs should record are more comprehensive than the descriptions for the “no take” observations were in the Applicant’s monitoring report.

Further, only a “guidance document” that provides “recommendations” exists for conducting geophysical and geotechnical survey work. While guidance is welcome, there are no requirements or permits required for conducting this work. The disclaimer in this specific guidance document states:

Except to the extent that the contents of this document derive from requirements established by statute, regulation, lease, contract, or other binding legal authority, the contents of this document do not have the force and effect of law and are not meant to bind the public in any way. This document is intended only

⁶ See *id.*, page 3.

⁷ Comments submitted to NOAA, “Application from Vineyard Northeast for an Incidental Harassment Authorization Pertaining to Marine Site Characterization Surveys from Massachusetts to New Jersey (Agency/Docket Number: RTID 0648-XC010), “ June 21, 2022, via email.

⁸ Vineyard Offshore, LLC, “[Preliminary Monitoring Report Preliminary Monitoring Report 2022 Lease Areas OCS-A 0522 & OCS-A 0544](#)”, at 2 (Feb. 28, 2023).

⁹ See *id.*

¹⁰ Baker, Kyle; Epperson, Deborah M., 1965-; Gitschlag, Gregg R. (Gregg Richard); Goldstein, Howard H.; Lewandowski, Jill; Skrupky, Kimberley; Smith, Bradley K.; Turk, Teresa A. “[National standards for a Protected Species Observer and Data Management Program: a model using geological and geophysical surveys](#),” 2013.

*to provide clarity to the public regarding legal requirements, related agency policies, and technical issues.*¹¹

Further, these IHA requests are in addition to take authorizations that are forthcoming for the Applicant's continued preconstruction activities, as well as for construction, operation and maintenance, and decommissioning. This IHA request occurs while there are **17 current "active" take authorizations (IHAs and ITRs)** for companies to harass marine mammals while conducting preconstruction and construction activities for offshore wind power plants on the East Coast.¹² Collectively, these take authorizations are already allowing the harassment of hundreds of thousands of marine mammals. In addition, there are **14 "in process"** authorizations to harass hundreds of thousands of marine mammals on the East Coast for preconstruction and construction activities, many of which have open public comment periods simultaneously. To date, there have been **49 expired authorizations** for this same activity, dating back to 2014 in this region.

Indeed, it appears there are no limits for the allowance of incidental take impacts from the current application as well as for the full scope of pending OSW proposals as provided by the NMFS:

*By 2030 the Northeast large marine ecosystem will be occupied by over 2.4 million acres of leases, 3,400 turbines, and 10,000 miles of submarine cables; and an additional 5.7 million acres is also under consideration for further development.*¹³

It is impossible for marine mammals to adapt to such massive industrial scope and scale of OSW development with each project at minimum causing the excessive impacts described by just one Applicant's project. The activities described in the Applicant's IHA request have been documented to result in species harassment, hence the need for incidental take authorizations.

NOAA NMFS Office of Protected Species is "responsible for the protection, conservation, and recovery of more than 160 endangered and threatened marine and anadromous species under the Endangered Species Act. The goal of the ESA is to conserve these species and the ecosystems they depend on."¹⁴ The government is obligated to provide assessments of the potential and real marine ecosystem impacts, and then stipulate policies and regulations to avoid and reduce negative impacts and ensure appropriate and meaningful mitigation of the unavoidable impacts. This also requires, at minimum, a fair, comprehensive, and independently peer-reviewed pilot project for this unproven, large-scale industry in US waters. Indeed, this also requires sound

¹¹ United States Department of the Interior, Bureau of Ocean Energy Management Office of Renewable Energy Programs, "[Guidelines for Providing Geophysical, Geotechnical, and Geohazard Information Pursuant to 30 CFR Part 585](#)," May 27, 2020.

¹² NOAA Fisheries, "[Incidental Take Authorizations for Other Energy Activities \(Renewable/LNG\)](#)," Last updated by Office of Protected Resources on 07/14/2023, as seen on 7/20/2023.

¹³ Andy Lipsky, NOAA Fisheries. "Fisheries, Wildlife, and Ecosystem Science in a New Era of Offshore Wind Energy Development." NOAA Ecosystem Based Management and Ecosystem Based-Fisheries Management Seminar Series, March 9, 2022, <https://www.youtube.com/watch?v=Dh7yBEDHzL8>.

¹⁴ National Oceanic & Atmospheric Administration, "About Us: Office of Protected Resources," as seen on 12/9/2022, <https://www.fisheries.noaa.gov/about/office-protected-resources>

science supported by robust baseline ecological assessments and independent and peer-reviewed studies which are currently planned, only just begun, or underway and incomplete.

Instead, the government is fast-tracking projects, including the Applicant's projects. There are numerous Memorandums of Understanding and Memorandums of Agreement between federal agencies to streamline approval of OSW projects. In fact, in early May 2023, the Biden Administration announced a new Memorandum of Understanding.¹⁵ Further, there are several OSW projects in the NY/NJ region designated federal as "Fast-41 projects." However, fast-tracking projects is not protective of marine species. The government's fast-tracking of OSW projects is inconsistent with good governance of public resources, the precautionary principle, and most importantly, laws including the Endangered Species Act ("ESA"). From the outset:

*Section 7(a)(2) of the ESA requires BOEM, in consultation with NOAA Fisheries, to ensure that any action the agencies authorize, fund, or carry out is not likely to jeopardize the continued existence of any endangered species or result in the destruction or adverse modification of designated critical habitat; this coordination is accomplished through ESA section 7 consultations. BOEM and NOAA Fisheries are required by the ESA to use the best scientific and commercial data available when carrying out these consultations.*¹⁶

It is important to note here that there are **no** permitting rules for marine site characterization surveying activities. COA finds it shocking and unconscionable that there are no permitting requirements for geological and geophysical surveys by or for the Bureau of Ocean Energy Management ("BOEM"). The recent BOEM Modernization Rule proposal states:

*Although BOEM requires a lessee to submit the results of certain surveys to BOEM in order to obtain approval of its COP, those regulations do not require BOEM's approval of a permit for such surveys. Instead, BOEM has provided guidance on conducting such surveys and also includes terms and conditions in renewable energy leases that require lessees to submit survey plans to BOEM for review in advance of their survey activities. BOEM's review of the plans, while not an approval process, does provide BOEM an opportunity to communicate with lessees to ensure the lessees' survey results will meet BOEM's information needs and to ensure certain environmental conditions are met in conducting the surveys.*¹⁷

¹⁵ The White House, "FACT SHEET: Biden-Harris Administration Outlines Priorities for Building America's Energy Infrastructure Faster, Safer, and Cleaner," May 10, 2023, <https://www.whitehouse.gov/briefing-room/statements-releases/2023/05/10/fact-sheet-biden-harris-administration-outlines-priorities-for-building-america-energy-infrastructure-faster-safer-and-cleaner/>

¹⁶ NOAA Fisheries, "Section 7: Types of Endangered Species Act Consultations in the Greater Atlantic Region," as seen 4/30/2023, <https://www.fisheries.noaa.gov/insight/section-7-types-endangered-species-act-consultations-greater-atlantic-region>.

¹⁷ Federal Register, "Renewable Energy Modernization Rule," Bureau of Ocean Energy Management, Publication Date: 1/30/2023, <https://www.federalregister.gov/documents/2023/01/30/2023-00668/renewable-energy-modernization-rule>.

Given this, it raises more questions about how it was possible that BOEM asserts without question that there is absolutely “no evidence” that offshore wind activities have any connection to the unprecedented number of dead whales that continued to wash-up on beaches in the NY/NJ region since December 2022. It is now clear there are no regulations; there is only guidance and suggestions, so interested parties have no recourse if they are not voluntarily followed. without such regulations, how can BOEM possibly make such a claim? Is the only requirement for survey vessels currently under the Marine Mammal Protection Act (“MMPA”) requiring IHA authorizations, which are limited in scope? In the Proposed Modernization Rule, BOEM admits not having the regulatory authority to govern surveys: “BOEM's existing renewable energy regulations do not expressly govern survey activities.”¹⁸

Further, regarding impacts to marine life from offshore wind development, NOAA Fisheries assumes the success of mitigation measures for impacts from offshore wind development. Before mitigation is considered, avoidance and minimization are required. However, without baseline studies and a pilot project to determine impacts, how can mitigation measures be established? This massive cumulative impact of multiple projects by a nascent US industry has not been assessed, and as described above has no precedent or permitting system. What is this mitigation strategy based on? What if mitigation measures fail? Since there is no transparent, consistent publicly available real-time assessment and reporting activities, how will NMFS even know whether mitigation fails? How is NMFS judging if mitigation measures are enough to prevent harassment to marine mammals during the survey work? What are the ecological guardrails? How and when would it be determined that additional harassment is occurring, and work must stop?

In sum, COA requests that NMFS deny this IHA request because:

1. there are no permitting requirements for geological and geophysical surveys under the Bureau of Ocean Energy Management (“BOEM”).
2. it is an incomplete evaluation due to the lack of new information and new protection strategies under development by federal agencies, particularly for the critically endangered North Atlantic right whale (“NARW”).
3. it would allow thousands of Level B takes of endangered, threatened, and/or protected marine mammal species, including the NARW, which will have significant and more than “negligible” impacts on a species on the precipice of extinction.
4. it will unacceptably add impacts to the already detrimental cumulative impacts of the numerous take authorizations and requests from the Applicant's' previous activities and projects in the region, as well as those requests and authorizations for other offshore wind industry companies' previous, current, and forthcoming take authorizations for preconstruction, construction, operation, and decommissioning of OSW facilities,
5. it raises other issues of importance, including lack of fairness, transparency, and accountability; and
6. it fails to address the cumulative impacts and effects of previous and concurrent preconstruction surveys and construction activities in the region.
7. an independent assessment is needed to determine if the unprecedented geotechnical and geophysical activities may be linked to the spike of whale and dolphin strandings in the region of the offshore wind project.

¹⁸ See *id.*

It is unacceptable and harmful to marine resources to be moving forward with incidental take authorizations at the current scope and scale of OSW energy development without sound science, transparency, due diligence, and meaningful public engagement. Clean Ocean Action urges NMFS to reject the Applicant's IHA request for the construction of an offshore wind power plant for the reasons outlined below in these comments.

I. Deny and Rescind the IHA request, as well as other “in process” take authorization requests, due to the: A.) Five-Year Strategy to protect NARW under development, B.) Lack of basic research about impacts to large whales, C.) Unprecedented number of whale deaths occurring in a short period of time along the NJ/NY coast starting in December 2022.

A. Five-Year Strategy to Protect NARW is Under Development

The Bureau of Ocean Energy Management (“BOEM”) and NOAA Fisheries’ “Draft North Atlantic Right Whale and Offshore Wind Strategy” (hereafter “Draft Strategy”) was proposed for public review but has not yet been finalized. This five-year protection plan for the North Atlantic right whale (“NARW”), while flawed and incomplete, is currently under development and stipulates the dire status of the NARW and need for additional protection. To ensure the best chance of survival, incidental take authorizations for the Applicant must be halted until the strategy is complete and measures to avoid, minimize or eliminate harm are determined so they can be applied to these projects.

The NARW is one of the most critically endangered species. Based on the population status, the outlook for the survival of the NARW is grim, especially with new threats, including offshore wind energy development. The NMFS’ last five-year review of the NARW, published in 2017, notes that the species’ population grew from 270 to 483 whales between 1990 and 2010; but the number of individuals remaining declined to 440-458 by 2017.¹⁹ The 2017 five-year review further notes that NMFS declared an unusual mortality event (“UME”) under the Marine Mammal Protection Act (“MMPA”) in August 2017 after 15 known NARW deaths occurred within a four-month span. The NARW population has continued to decline. In October 2021, the North Atlantic Right Whale Consortium announced that just 336 individual NARWs remain.²⁰ The Draft Strategy affirms this dire status in Section 2.3 where it states:

“The potential biological removal (PBR) level for the species, defined as the maximum number of animals that can be removed annually while allowing the

¹⁹ North Atlantic Right Whale (*Eubalaena glacialis*) 5-year Review: Summary and Evaluation, NATL. MARINE FISHERIES SERV. GREATER ATLANTIC REGIONAL FISHERIES OFFICE (2017), <https://www.fisheries.noaa.gov/resource/document/5-year-review-north-atlantic-right-whale-eubalaena-glacialis> [hereafter “2017 5-Year Review”].

²⁰ H.M. Pettis, et al., *North Atlantic Right Whale Consortium 2021 Annual Report Card: Report to the North Atlantic Right Whale Consortium* (2022), https://www.narwc.org/uploads/1/1/6/6/116623219/2021report_cardfinal.pdf.

stock to reach or maintain its optimal sustainable population level, is less than 1 (Hayes et al. 2022).”²¹ (Emphasis added)

To be clear, ***not one*** of the remaining NARW can be lost, an unambiguous and stern statement. It goes on to state: “The species has low genetic diversity, as would be expected based on its low abundance, and the species’ resilience to future perturbations is expected to be very low (Hayes et al. 2018).”²² This information suggests that harassment can have population impacts and must be avoided or significantly reduced to protect the NARW population. It is possible that “perturbations” from surveying and vessel activities would likely trigger Level A & Level B Harassment impacts to the NARW. Yet, the proposed IHA does not list Level A impacts to the NARW. Based on this, for the protection of the NARW, all industrial full-scale construction for offshore wind energy should be paused until the federal agencies determine how best to eliminate or avoid all impacts, Level A or B, on the NARW.

B. Lack of Basic Research About Impacts to Large Whales

In addition, there is a lack of basic research of the impacts of OSW energy development on large whale species in U.S. waters, particularly in the mid-Atlantic region. It is reckless to move forward without the scientific baseline assessments for what harm may or could occur to whales before issuing any permits and authorizations, including IHAs, ITRs, and associated LOAs.

1. Failure to include crucial scientific assessments and consultations

In a May 2022 letter obtained under the Freedom of Information Act by Bloomberg Law, Dr. Sean Hayes, PhD, Chief of Protected Species, NOAA NEFSC, clearly documents and confirms the NARW’s fragile hold on existence. First, the Chief of Protected Species notes that there are less than 350 remaining NARW animals.²³ Again, COA notes, the Draft North Atlantic Right Whale and Offshore Wind Strategy states that ***not one*** animal can be lost.

Looking later in the development phases of OSW facilities, the letter from Dr. Hayes states:

The development of offshore wind poses risks to these species, which is magnified in southern New England waters due to species abundance and distribution. These risks occur at varying stages, including construction and development, and include increased noise, vessel traffic, habitat modifications, water withdrawals associated with certain sub-stations and resultant impingement/entrainment of zooplankton, changes in fishing effort and related potential increased entanglement risk, and oceanographic changes that may disrupt the distribution,

²¹ U.S. Department of Interior Bureau of Ocean Energy Management and U.S. Department of Commerce National Oceanic and Atmospheric Administration NOAA Fisheries, *Draft BOEM and NOAA Fisheries North Atlantic Right Whale and Offshore Wind Strategy*. October 2022, page 5.

²² *See id.*

²³ Letter from Sean A. Hayes, PhD, Chief of Protected Species, NOAA NEFSC, to Brian R. Hooker, Lead Biologist Bureau of Ocean Energy Management, Office of Renewable Energy Programs, dated May 13, 2022.

*abundance, and availability of typical right whale food (e.g., Dorrell et al 2022).*²⁴

It is clear that any further disturbance of the NARW species will have an impact on this critically endangered species. Some scientists estimate that the species will go extinct within 20 years with current threats.²⁵

2. Threats to Marine Mammal Health & Survival

The threats to marine mammals, including NARW, include:

*negative impacts to whale habitat which may take the form of development, pollution, noise, overfishing, and climate change. Shipping channels, aquaculture, offshore energy development, and recreational use of marine areas may destroy whale habitat or displace whales which would normally use the area. Oil spills and other chemical pollutants are also a threat to whales and the prey which they feed on.*²⁶

Specifically, about offshore wind development impacts on the marine ecosystem, NMFS says,

Scientists around the world are still investigating the potential impacts of offshore wind energy development on marine life. Site assessment, construction, and operations could interact with marine life on the seabed, in the water, and at the surface. For example, offshore wind energy projects could:

- *Increase ocean noise, which could affect the behaviors of fish, whales, and other species*
- *Introduce electro-magnetic fields that impact navigation, predator detection, communication, and the ability for fish and shellfish to find mates*
- *Change existing habitats by altering local or regional hydrodynamics*
- *Create a “reef effect” where marine life cluster around the hard surfaces of wind developments*
- *Impact organism life cycle stages, including larval dispersal and spawning*
- *Change species composition, abundance, distribution, and survival rates*
- *Increase vessel traffic, which could lead to more vessel strikes*
- *Release contaminants that can be consumed or absorbed by marine life.*²⁷

Offshore wind, in the current proposed scale, scope, and magnitude significantly added to the threats to marine mammals, including noise, vessel strikes, and impacts to prey. Access to food

²⁴ See *id.*

²⁵ Pennisi, Elizabeth. “The North Atlantic right whale faces extinction.” *Science*, November 7, 2017, <https://www.science.org/content/article/north-atlantic-right-whale-faces-extinction>.

²⁶ Conserve Wildlife Foundation of New Jersey, “New Jersey Endangered and Threatened Species Field Guide: North Atlantic Right Whale,” as seen 12/9/2022, <http://www.conservewildlifenj.org/species/fieldguide/view/Eubalaena%20glacialis/>

²⁷ National Oceanic & Atmospheric Administration, National Marine Fisheries Service, “Offshore Wind Energy: Protecting Marine Life,” <https://www.fisheries.noaa.gov/topic/offshore-wind-energy/protecting-marine-life>, as seen 5/14/2023.

sources for large whales is essential. The importance of the waters off New Jersey as feeding grounds for all marine mammals is increasing.

The threats to marine life, including NARW, from offshore wind development activities are year-round. It is documented that North Atlantic right whales are in the region at all times of the year. Data from WhaleMap and the Mid-Atlantic Ocean Data Portal indicate an abundance of NARWs off the NJ coast throughout the year²⁸. Further, a Right Whale Slow Zone southeast of Atlantic City was effective in December 2021²⁹. According to the Conserve Wildlife Foundation of New Jersey:

*Within the western North Atlantic Ocean, right whales feed during spring, summer, and fall in temperate and subpolar latitudes near eastern Canada and the northeastern U.S. During the winter, many individuals from this population can be found off the northeast coast of Florida and Georgia, their breeding and calving grounds. Some right whales, however, may remain at their northern feeding grounds during the winter.*³⁰

Other studies concur finding year-round presence of right whales in the mid-Atlantic (Whitt et al Atlantic). Right whales are present in the mid-Atlantic more often than previously believed.”³¹

The Applicant’s activities will increase the number of vessels in the ocean in the two lease areas, leading to an increased threat of harm by vessel strikes to marine mammals. Specifically, “collisions with ships are an increasing threat to right whales...Right whales are especially slow-moving, compared to other large whales, and therefore more susceptible to being struck by ships.”³² Further, the take authorizations issued by NMFS include the requirement of Protected Species Observers (“PSO”) on board vessels. However, as NOAA itself states: “Right whales can be very difficult to spot from a boat due to their dark color and lack of a dorsal fin. Poor weather and sea state or low light conditions can make spotting these whales nearly impossible.”³³

COA urges NMFS to specifically assess the cumulative impacts on marine mammals, particularly the NARW, from all the vessels associated with the Applicant’s project as well as other offshore wind projects proposed or underway in this region.

²⁸ See <https://whalemap.org>; <https://portal.midatlanticocean.org>.

²⁹ National Oceanic & Atmospheric Administration, Fisheries, “Extension of Right Whale Slow Zone Southeast of Atlantic City, NJ.” As seen, 11/15, 2022: <https://content.govdelivery.com/accounts/USNOAAFISHERIES/bulletins/2fef565>.

³⁰ Conserve Wildlife Foundation of New Jersey, “New Jersey Endangered and Threatened Species Field Guide: North Atlantic Right Whale,” as seen 12/9/2022, <http://www.conservewildlifenj.org/species/fieldguide/view/Eubalaena%20glacialis/>

³¹ New York State Department of Environmental Conservation, “Species Status Assessment,” as seen 12/9/2022, https://www.dec.ny.gov/docs/wildlife_pdf/sgcnnatrightwhale.pdf.

³² Conserve Wildlife Foundation of New Jersey, “New Jersey Endangered and Threatened Species Field Guide: North Atlantic Right Whale,” as seen 12/9/2022, <http://www.conservewildlifenj.org/species/fieldguide/view/Eubalaena%20glacialis/>

³³ National Oceanic & Atmospheric Administration, National Marine Fisheries Service, “Reducing Vessel Strikes to North Atlantic Right Whales,” <https://www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-vessel-strikes-north-atlantic-right-whales> as seen on 5/15/2023.

3. Excessive Takes of Marine Mammals

Under the Marine Mammal Protection Act (“MMPA”), citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region may request authorization for incidental, but not intentional, takes of “**small numbers**” (*emphasis added*) of marine mammals pursuant to that activity for a period of no more than five years.³⁴ The NMFS, which has been delegated the authority to administer the relevant legal framework, may allow takes under the MMPA only if the agency determines that the total number of authorized incidental takes during the five-year period will have a “negligible impact” on the relevant species or stock.³⁵ “Negligible impact” is, in turn, defined as an impact that is not reasonably likely or expected to “adversely affect the species or stock through effects on annual rates of recruitment or survival.”³⁶ Finally, the applicable legal framework distinguishes between “Level A” takes and “Level B” takes. In the context of offshore wind energy development and related activities, “Level B harassment” refers to “any act of pursuit, torment, or announcement which has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering.”³⁷ “Level A” takings, on the other hand, refer to “any act of pursuit, torment, or annoyance which has the potential to injure a marine mammal or marine mammal stock in the wild.”³⁸

Recently, NMFS announced a “biological opinion”³⁹ for Ocean Wind 1, another massive OSW project proposed off New Jersey, that states the project will “likely to adversely affect, but is not likely to jeopardize, the continued existence of any species of ESA-listed whales, sea turtles, or Atlantic sturgeon or destroy or adversely modify any designated critical habitat.” This federal biological opinion is not protective of marine life, and this determination is alarming. This biological assessment and opinion is just for *one* of the many OSW projects. Cumulatively, with all the issued and pending take authorizations for the Ocean Wind 1, the Vineyard Wind Northeast and Vineyard Wind Mid-Atlantic as well as the other nearly 30 projects in the Northeast, how many issued takes will cause impacts on protected populations whose range spans multiple project areas? It should be noted that likely the same animals are being potentially exposed to activities from all the projects along the East Coast for the entire lifecycles of the projects.

a) COA rejects the numbers proposed in the application as “Small”

The number of takes in this Draft IHA for the Applicant is **9,711 marine mammals**. These take numbers are not “small;” however, of greater concern is the cumulative impacts of all the projects concurrently under siting and characterization, construction, and operation, and later,

³⁴ 16 U.S.C. § 1371(a)(5)(A)(i).

³⁵ *Id.* § 1371(a)(5)(A)(i)(I).

³⁶ 50 C.F.R. § 18.27(c).

³⁷ 16 U.S.C. § 1362(18).

³⁸ *Id.*

³⁹ National Oceanic & Atmospheric Administration, National Marine Fisheries Service, “NOAA Issuing Biological Opinion on the Ocean Wind 1 Offshore Energy Project,” April 4, 2023, <https://content.govdelivery.com/accounts/USNOAAFISHERIES/bulletins/352c198>.

decommissioning. The take numbers are outrageous and fail to meet the legal requirements for mammal protection, much less for endangered species.

North Atlantic Right Whales

The harm that offshore wind energy development may inflict upon NARWs throughout site assessment, construction, and operation, is widely recognized.⁴⁰ Offshore wind projects will significantly exacerbate the existing threats posed to NARWs by ship collisions and entanglements. With such low population numbers, and, as noted earlier, based on the recommendation by a federal scientist that not one NARW can be lost if the species is ever to reach its optimum sustainable population level, cumulative impacts must be considered for NARWs and other endangered species.

Moreover, the impacts of activities that may be authorized in this IHA request will compound those that already occurred under the terms of the Applicant's previous IHA for site characterization and assessment. Moreover, the aforementioned sum must be considered alongside other takes of marine mammal species, including the critically endangered NARWs, that NMFS has authorized for other wind activities along the species' migratory range from North Carolina to Maine. Such authorizations include those for site characterization, assessment, and construction activities that are simultaneously occurring for offshore wind energy development lease sites.

Again, currently, there are **17 Active Incidental Take Authorizations** (for marine site characterizations and construction) and **14 "in process" Incidental Take Authorizations** (for marine site characterizations and construction) for offshore wind projects from Maine to South Carolina. It is also important to note that this take request follows **one** previous IHA application by the Applicant to take marine mammals as a result of preconstruction activities and precedes the future take authorizations needed for continued construction, operation, and decommissioning.

Of all species under consideration in this application, the NARW population is the most susceptible to even the slightest harm. Also, COA notes that vessel strikes pose one of the largest threats to NARWs. According to NOAA, "vessels of nearly any size can injure or kill a right whale⁴¹." If approved, the survey vessels will add more vessels and round-trip vessel trips to an already busy port region, thereby adding more opportunities for vessel strikes. For accountability and fairness, who will determine, and how, which vessel struck a NARW or other species if that should happen? Especially given the threat posed to NARWs as a species by even one instance of a vessel collision, and the existence of NARW in the project area, NMFS should reject/deny the Applicant's request.

In addition, noise is a significant threat to the survival of whales:

⁴⁰ See Conservation Law Foundation, et al., *Strong Mitigation Measures Are Essential to Protect the North Atlantic Right Whale During All Phases of Offshore Wind Energy Development* (Feb. 2022), https://www.nrdc.org/sites/default/files/narw-mitigation_feb2022.pdf; Vineyard Wind – NGO Agreement (Jan. 22, 2019), <https://www.nrdc.org/sites/default/files/vineyard-wind-whales-agreement-20190122.pdf>.

⁴¹ See *id.*

Noise pollution created by ship traffic or offshore construction may negatively impact whales by disrupting otherwise normal behaviors associated with migration, feeding, alluding predators, rest, breeding, etc. Any changes to these behaviors may decrease survival, simply by increasing efforts directed at avoidance of the noise and the perceived threat.⁴²

Offshore wind-related activities are a growing source of noise pollution that interferes with NARWs' most vital social functions. More specifically, low frequency noise from large ships involved in offshore wind-related activities overlaps with the acoustic signals used by right whales. These large whales rely on sound to breed, navigate coastlines, and find food. Right whales communicate with one another by making calls, which can cover distances of more than 20 miles.⁴³ The calls let whales stay in touch, share information about food, help mates find each other, and keep groups together while traveling.

Rising levels of ocean noise are interfering with whales' ability to communicate. Anthropogenic noise interferes with their ability to eat, mate, and navigate; therefore, it is essential to their survival that these sounds travel the ocean undisturbed.⁴⁴ North Atlantic right whales have been observed increasing their call amplitude with the rise of background noise, and noise pollution has been correlated with an increase in stress-related fecal hormone metabolites.⁴⁵

b. Excessive Takes of Other Marine Mammal Species, including Endangered & Threatened

Clean Ocean Action finds the variety of species and total number of individual Level B takes proposed by the Applicant unsupportable. The Applicant's request is for the taking of a small number of marine mammal species by Level B harassment; the 9,086 marine mammal takes is not "small." The takes also include endangered and protected marine mammals, including nearly 5,000 dolphins of various species.

Bottlenose dolphins are highly social and arguably the most recognized and beloved small cetacean.⁴⁶ In addition to their inherent value to the American public, the dolphins are an increasingly important driver of economic growth for tourism and related industries.⁴⁷ The cumulative impact of harassing thousands of bottlenose dolphins are not entirely known, but these impacts are not considered in the application as currently proposed. How can NMFS justify

⁴² Conserve Wildlife Foundation of New Jersey, "New Jersey Endangered and Threatened Species Field Guide: North Atlantic Right Whale," as seen 12/9/2022,

<http://www.conservewildlifenj.org/species/fieldguide/view/Eubalaena%20glacialis/>

⁴³ Woods Hole Oceanographic Institution, "Right Whales," as seen 11/15/2022, <https://www.whoi.edu/know-your-ocean/ocean-topics/ocean-life/marine-mammals/right-whales/>.

⁴⁴ National Oceanic & Atmospheric Administration, Fisheries, "North Atlantic Right Whale," as seen 11/15/2022, <https://www.fisheries.noaa.gov/species/north-atlantic-right-whale>.

⁴⁵ *North Atlantic Right Whale 5-Year Review*, NOAA FISHERIES SERV. NE. REG'L OFFICE 11-12 (Aug. 2012), http://www.nmfs.noaa.gov/pr/pdfs/species/narightwhale_5yearreview.pdf

⁴⁶ *Common Bottlenose Dolphin*, MARINE MAMMAL CENTER (visited Feb. 28, 2022), <https://www.marinemammalcenter.org/animal-care/learn-about-marine-mammals/cetaceans/common-bottlenose-dolphin>.

⁴⁷ *The Economic of Marine Mammals*, MARINE MAMMAL COMMISSION (visited Feb. 28, 2022), <https://www.mmc.gov/priority-topics/value-marine-mammals/>.

taking this number of bottlenose dolphins, or any animal for that matter, for construction of one private company's offshore wind projects? The Western North Atlantic Northern Migratory Coastal stock is categorized as depleted under the MMPA. The estimated number of individuals is 6,639 in 2020 (using 2016 data), so about 2% would be authorized to be taken in this proposed IHA.⁴⁸ These shortcomings contribute to COA's overall recommendation to reject the Applicant's take request.

Furthermore, COA also strongly encourages NMFS to reject the take request due to deficiencies in its analysis concerning the proposed activities' effects on harbor seals. Frequently spotted along both the East and West Coasts of the U.S., harbor seals are known for resting on floating ice with their head and rear flippers elevated in a "banana-like" position, leading to their popularity with excited winter beach-goers.⁴⁹ Besides their wide recognition among the American public, harbor seals also play a major role in maintaining balance in marine food webs as well.⁵⁰

Despite the unique importance of this species, however, COA maintains there is not sufficient baseline information about how harbor seals use the waters at the Applicant's lease site to conclude that the activities covered by the application will have a negligible impact on harbor seals. More specifically, a COA employee attended a virtual "Science Saturday" event in early 2022 at which a representative of the New Jersey Department of Environmental Protection ("NJDEP") indicated that, to date, no one has tracked harbor seals to understand the species' pre-construction use of offshore wind energy lease areas off the NJ coast.⁵¹ This admission strongly suggests that decisionmakers do not yet have sufficient information about the role of these lease areas in harbor seals' life-cycles to substantiate the numbers of harassments expected to occur by this application. **With this in mind, the Applicant requests the taking of 939 harbor seals and 418 gray seals by Level B takes, for a total Level B harassment of 1,357 seals.** With so little baseline information available about seals and their use of the project area and waters off New Jersey, NMFS should reject the Applicant's take request.

C. Unprecedented number of whale deaths occurring in a short period of time along the NJ/NY coast starting in December 2022

Especially in light of the NARW's critically endangered status, the ongoing Unusual Mortality Event that this species is experiencing and, consequently, the existential threat posed to the species by obstacles to even one individual's survival, the best scientific literature cannot justify harassing even one of the 336 remaining individuals in a short timeframe for the Applicant's

⁴⁸ NOAA Fisheries, "[Common bottle nose dolphins](#)," as seen 7/21/2023.

⁴⁹ *Harbor Seal*, NATL. MARINE FISHERIES SERV. (visited Feb. 28, 2022), <https://www.fisheries.noaa.gov/species/harbor-seal>.

⁵⁰ *Seals*, INTL. FUND FOR ANIMAL WELFARE (visited Feb. 22, 2022), <https://www.ifaw.org/animals/seals#:~:text=As%20one%20of%20the%20keystone,%2C%20polar%20bears%2C%20and%20sharks>.

⁵¹ "Science Saturday: Offshore Wind," LONG BEACH ISLAND FOUNDATION OF ARTS AND SCIENCES (Feb. 19, 2022). Specifically, the NJDEP representative identified the tracking of harbor seals off the NJ coast to understand their use of lease areas prior to the construction of offshore wind turbines as a project concept that NJDEP is currently considering.

construction activities. Harassing one NARW is not negligible; it is significant. This is particularly true upon consideration of the multitude of additional NARW takings that the Applicant will be pursuing for the continued preconstruction, as well as the construction, operation, and decommissioning phases of the Applicant's projects. Again, not one NARW can be lost according to federal scientists, as previously noted.

Further, according to reports of dead marine mammals to Clean Ocean Action the Marine Mammal Stranding Center⁵² to date, **21 whales and at least 38 dolphins and porpoises** have washed ashore dead in the New York/New Jersey region since December 2022. COA, along with **389,724 members of the public**, have called for a pause in any offshore wind related activities until an investigation is conducted into the potential causes of the whale and dolphin deaths. Based on the NMFS' list of impacts caused by offshore wind, which includes noise and ship strikes, it is plausible that the preconstruction offshore wind activities can be connected with these marine mammal deaths and must be thoroughly investigated.

In response to COA's request for an investigation, NMFS, BOEM and Marine Mammal Commission have denied a possible link between whale and dolphin deaths and offshore wind activities. However, to date, the agencies have provided no evidence on which they are basing their claim. Following the denials, these agencies stated that the whale deaths were due to increased ship strikes and increased whale populations in the region. However, no substantiating data was provided on either alleged cause. Can the NMFS provide studies and evidence that whale populations are increasing in the region?

It should be noted that less than 50% of the whales had evidence of ship strikes, and ship strikes do not necessarily determine cause of death. Whales may have been hit after death or been impaired by another cause, and then secondarily hit by a ship. Also, due to the survey vessels' erratic and frequent activity, survey ships should not be discounted as a cause without evidence.

It has been claimed by agencies and agencies that increased shipping rates have more likely caused these marine mammal deaths in this region. Subsequently, to fact check this narrative, COA reviewed the data from the Port Authority of NY/NJ Twenty Equipment Unit (TEU) data, which shows commerce was down over 20% in December, when whales first started frequently washing up, and commerce declined about 25% to date from January to March of 2023.⁵³ Therefore, it is not accurate to say increased shipping was the definitive cause of ship strikes on whales during this time.

It is imperative for an independent investigation to identify the cumulative impacts of preconstruction activities on marine life prior to moving forward with reviewing and issuing further harassment authorizations, whether it be for marine site characterizations or construction, operation, and decommissioning phases of OSW projects. COA urges NMFS to reject the Applicant's take request.

⁵² Marine Mammal Stranding Center, "NJ Cetacean Strandings from December 2022 Through Present," <https://mmsc.org/cetaceans-2002-2023> as seen 5/15/2023.

⁵³ The Port Authority of New York and New Jersey, "Facts and Figures," as seen 4/30/2023, <https://www.panynj.gov/port/en/our-port/facts-and-figures.html>.

The concerns discussed in this section are not exhaustive; as the MMPA recognizes, every marine mammal is important, and the effects of the proposed activities—including those that are actively included in the recent unprecedented whale deaths and the Unusual Mortality Events, such as the North Atlantic right whale and humpback whale—should encourage NMFS to demand more baseline data and severely restrict the Applicant’s authorized takes for the activities in question. COA consequently urges NMFS to reject the Applicant’s IHA request.

II. Other Issues of Importance, including Lack of Fairness, Transparency, and Accountability

Further, a serious issue of concern is a lack of accountability. Again, as referenced above,

*By 2030 the Northeast large marine ecosystem will be occupied by over 2.4 million acres of leases, 3,400 turbines, and 10,000 miles of submarine cables; and an additional 5.7 million acres is also under consideration for further development.*⁵⁴

Never has an ecosystem been under such massive industrial development pressure and impact over a span of less than decade. Given this unimaginable and unprecedented scope and scale of industrial OSW development in the Northeast region, and off NY/NJ coasts in particular, NMFS must provide clarity and due process *now* and establish accountability. At what point will there be too many accumulated Level A and Level B harassments from OSW energy development or other activities? What are the guardrails to determine how many takes will be too many? How will BOEM ensure that any number of takes do not prove to be more harmful than predicted? How will NMFS distinguish between impacts, such as those from the wind industry as compared to those from other shipping traffic, especially as wind facilities are built-out and marine life and ships are concentrated into more narrow corridors? Who will be responsible for determining all aspects of the issued IHA are complied with, and how will accountability be managed? How will the number of takes be lowered over time to address the additional, cumulative stress to marine life? Or will it be?

NOAA Fisheries is “responsible for the stewardship of the nation’s ocean resources and their habitat;”⁵⁵ this includes the protection of whales, dolphins, porpoises, seals, and sea lions.⁵⁶ How will population dynamics be measured as species populations decline from stress or injury from offshore wind development? Or food scarcity as migratory fish populations move or as fish structure changes? Or will the agencies simply place blame on “climate change” as a catch-all to lower populations of marine mammals? How many marine mammals can be harassed and injured before the populations, and associated ecosystems, collapse, all for the current unfounded benefits of the new offshore wind energy industry? How many takes, for individual projects or requests or cumulatively, are too many? The current process by which takes are evaluated must

⁵⁴ Andy Lipsky, NOAA Fisheries. “Fisheries, Wildlife, and Ecosystem Science in a New Era of Offshore Wind Energy Development.” NOAA Ecosystem Based Management and Ecosystem Based-Fisheries Management Seminar Series, March 9, 2022, <https://www.youtube.com/watch?v=Dh7yBEDHzL8>.

⁵⁵ NOAA Fisheries, “[About Us](#),” as seen on 7/20/2023.

⁵⁶ NOAA Fisheries, “[Laws & Policies: Marine Mammal Protection Act](#),” as seen on 7/20/2023.

include cumulative impacts to populations from all incidental take requests and authorizations. These questions and issues, among others, must be addressed at the outset to ensure transparency and accountability for the impacts to the living marine ecosystem from this wholesale, rapid industrial development of the ocean.

Further, numerous IHAs have already been issued, and ITRs and NOAs for construction are already in process for many OSW energy projects in the region and along the East Coast of the United States. It is essential that systems are in place to monitor the impacts from these activities in these areas. Impacts must be documented and fully investigated to inform forthcoming incidental take requests and authorizations. Monitoring reports are not enough. It is necessary for on-the-ground independent scientists and response teams to be in the areas included in incidental take authorization areas to monitor for impacts so immediate response or investigation can occur.

As an example, on December 5, 2022, an infant endangered Sperm Whale washed up on the beach in Keansburg, NJ.⁵⁷ Thankfully, volunteers at the Marine Mammal Stranding Center were able to be on the scene. Many other times due to travel requirements or availability of response teams, weather, equipment, and other challenges, response is hindered and investigations and samples cannot occur. Given that massive, large-scale offshore wind project activities are already underway in this region, organizations charged with responding to an endangered marine mammal incident should be fully funded by the state and federal agencies to collect the animal, if possible, or be provided the means to conduct a thorough and immediate investigation, including a comprehensive necropsy, to determine that cause of death. The investigation should include what, if any, offshore wind energy related activities, or other offshore activities, were ongoing within the window of time the animal was potentially impacted. An immediate response and thorough investigation of such incidents is necessary to ensure accountability and the protection of marine mammal species.

COA protests the double standard that has developed for the offshore wind industry when it comes to protecting marine mammals. COA acknowledges the importance of reducing other common harms to NARWs and other marine mammals, such as entanglements and vessel strikes, but these efforts to help the species will be of limited benefit if they coincide with an increased tolerance for other activities that torment and annoy these invaluable creatures. The noise, electromagnetic fields, and drilling associated with offshore wind development and the site characterization activities that precede them, as well as the construction, operation, and decommissioning activities must be treated as serious threats to the NARW and other marine mammals. NMFS should seize the opportunity to set a strong precedent for protecting NARWs and all marine mammals by denying the Applicant's take request.

⁵⁷Radel, Dan. "Infant 12-foot sperm whale washes up dead on Keansburg beach." Asbury Park Press, 12/5/2022. <https://www.app.com/story/news/local/animals/2022/12/05/keansburg-nj-infant-sperm-whale-washes-up-dead-beach/69703142007/>

III. Conclusion

In sum, COA urges the NMFS to reject and deny the Applicant’s harassment “take” request of **9,711 marine mammals** for marine site characterization activities for offshore wind lease areas for offshore wind power plants and the associated export cables. It is clear the Applicant’s activities would cause an unacceptable number of Level B harassments of extremely at-risk and endangered North Atlantic right whales, as well as an unacceptable amount of Level B take authorizations for other marine mammal species, including other federally protected whales, dolphins, porpoises, and seals. In addition, Clean Ocean Action objects to the IHA application being for two separate large lease areas for projects independent of one another; coming lease areas is another indication of the fast-tracking of offshore wind activities and projects.

For the North Atlantic right whale, the activities in question are reasonably likely or expected to adversely affect this critically endangered species—both individuals and the stock as a whole—through effects on the species’ annual rates of recruitment and survival; this impact cannot reasonably be regarded as merely minimal or negligible. It is imperative that NMFS engage in all means possible to avoid harassment to all the uniquely significant species protected by the MMPA, especially the NARW, and to protect ecosystems.

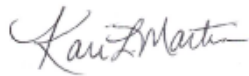
In addition, the cumulative impacts from all incidental take requests and authorizations for offshore wind projects in the same region, as well as for other uses, must be considered when reviewing each application for “takes” of marine mammal species. The total takes for all species affected must be considered alongside takes that NMFS has authorized for other wind activities including for site characterization, assessment, and construction activities (and later, operation and decommissioning activities) that are simultaneously occurring in the region and in the migration areas for marine life.

For the foregoing reasons, COA strongly urges NMFS to reject Vineyard Wind Northeast and Vineyard Wind Mid-Atlantic’s request for an Incidental Harassment Authorization. Should you have any questions or would like to further discuss these concerns, please feel free to contact us.

Respectfully submitted,



Cindy Zipf
Executive Director



Kari Martin
Advocacy Campaign Manager

July 21, 2023

Submitted via electronic mail to ITP.Taylor@noaa.gov.

Jolie Harrison, Chief, Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service

**Re: Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Site Characterization Surveys Offshore From Massachusetts to New Jersey for Vineyard Northeast, LLC
(88 Fed. Reg. 40,212, June 21, 2023)**

Dear Jolie Harrison:

Oceana is the largest international conservation organization solely focused on protecting the world's oceans, with more than 1.2 million members and supporters in the United States, including over 340,000 members and supporters on the U.S. Atlantic seaboard. For nearly twenty years, Oceana has campaigned to win strategic, directed campaigns that achieve measurable outcomes to help make our oceans more biodiverse and abundant.

Addressing climate change is important for oceans, wildlife, and our future. By shifting from fossil fuel energy to clean, renewable energy sources, the United States can help address this crisis.

Oceana was pleased to see the Biden Administration's goal to deploy 30 GW of offshore wind power by 2030 while protecting biodiversity and cultural resources, including imperiled marine life such as the critically endangered North Atlantic right whale (NARW).

Oceana has engaged as a stakeholder in the management of U.S. fisheries and interactions with endangered species, with a particular interest in effective bycatch minimization and reduction, if not elimination, of fishing gear entanglement-related death, injury, and harm to protected species, including the NARW. In addition, Oceana is interested in seeing the reduction, if not elimination, of vessel strike-related death, injury, and harm to NARWs. For these reasons, in 2019, Oceana launched a binational campaign in the United States and Canada to urge the respective governments to effectively enforce environmental laws to protect this critically endangered species and Oceana is currently campaigning to protect these whales from their two biggest threats—entanglement in fishing gear and vessel strikes.

For over 15 years, Oceana has been campaigning to oppose expanded offshore oil and gas exploration and development. Offshore drilling causes dangerous oil spills and perpetuates energy development based on fossil fuels. The United States must shift from fossil fuel-based energy sources to clean energy. Offshore wind development has the potential to help bridge the transition to our clean energy future.

Oceana is supportive of offshore wind energy if it is responsibly sited, built, and operated throughout its lifespan. The proposals for offshore wind development in areas that the critically endangered NARW may frequent need to consider, avoid, and mitigate effects to protected species, particularly the NARW, to ensure that wind development will not come at the expense of the species. NARWs spend much of the year in the waters of New England and Eastern Canada with mothers migrating south to have calves in the U.S. Southeast region. Wind development in persistent aggregation habitats and calving grounds pose particular concern but those areas where NARWs migrate are likely more appropriate because of the reduced frequency, intensity, and duration of interactions with these areas. As offshore wind is developed along the eastern seaboard, strong measures are needed to protect this critically endangered species.

Oceana thanks you for the opportunity to submit comments as your agency considers an application for an Incidental Harassment Authorization (IHA) to support the site characterization of offshore wind projects in New England. To comply with the Marine Mammal Protection Act (MMPA), the Fisheries Service must continue to provide a full 30-day comment period for future renewal notices to ensure adequate public engagement.

This comment letter includes the following key points:

- The IHA must include use of best available science, cumulative impacts analysis, and project conditions that avoid, minimize, and mitigate adverse environmental impacts.
- The IHA must include a vessel traffic plan to minimize the effects of service vessels on marine wildlife.
- The IHA must include requirements to use effective reactive restrictions that are triggered by detection of protected species before or during site characterization activities.

Oceana submits these comments to help ensure that the proposed activities avoid adverse effects on marine mammals. If adverse effects cannot be avoided, then they should be minimized or mitigated. The Fisheries Service is the steward of the remaining NARWs that swim along our coasts and, as the agency responsible for their recovery, should ensure that the authorization of site characterization is based on the best scientific information available and that strong protections are in place before approving this or any proposed activity that may take, harass, or cause stress to NARWs.

1) The role of Incidental Harassment Authorizations

The MMPA was adopted fifty years ago with the goal of protecting and promoting the growth of marine mammal populations “to the greatest extent feasible commensurate with sound policies of resource management” in order to “maintain the health and stability of the marine ecosystem.”¹ To protect marine mammals from human activities, the MMPA prohibits the “take” of marine mammals including activities that harass, hunt, capture, or kill, or any attempt to harass, hunt, capture, or kill any marine mammal.² In limited circumstances, the Fisheries Service, the agency responsible for protecting most marine mammal species,³ may grant exceptions to the take prohibition, such as for the incidental, but not intentional, taking of marine mammals for certain activities, which is done via incidental take authorizations.⁴

The Fisheries Service can only grant an incidental take authorization if the take request is for “small numbers of marine mammals of a species or stock” and will have only “negligible impact.”⁵ It is important to note that when granting an incidental take authorization, the Fisheries Service must require mitigation measures that achieve “the least practicable impact on such [marine mammal] species or stock and its habitat.”⁶

Under the Fisheries Service’s regulations, there are two types of incidental take authorizations: IHAs and Letters of Authorization (LOA). LOAs can only be issued after the Fisheries Service promulgates incidental take regulations for the activity. An IHA is limited to one year, and the action authorized may only have the potential to result in harassment.⁷ For actions that could result in any “serious injury”⁸ or mortality of a marine mammal, the Fisheries Service’s regulations indicate that incidental take regulations must be promulgated after notice and the opportunity to comment.⁹ LOAs can be issued pursuant to incidental take regulations for up to five years.¹⁰

¹ 16 U.S.C. § 1361(6).

² 16 U.S.C. §§ 1361(2), 1371.

³ The Fish and Wildlife Service, within the Department of the Interior, is responsible for dugongs, manatees, polar bears, sea otters and walruses. See U.S. Fish and Wildlife Service, *Marine Mammals*, <https://www.fws.gov/international/animals/marine-mammals.html> (last visited May 3, 2021).

⁴ 16 U.S.C. § 1371(a); *Incidental Take Authorizations under the Marine Mammal Protection Act*, NOAA FISHERIES <https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act> (last visited May 3, 2021) (listing renewable energy activities as activities for which incidental take authorizations have been issued).

⁵ 16 U.S.C. § 1371(a)(5)(A), (D).

⁶ 16 U.S.C. § 1371(a)(5)(D)(ii)(I) (for IHAs); 16 U.S.C. § 1371(a)(5)(A)(i)(II)(a) (for LOAs).

⁷ 16 U.S.C. § 1371(a)(5)(D)(ii)(I).

⁸ The Fisheries Service defines the term “serious injury” as “any injury that will likely result in mortality. 50 C.F.R. § 216.3.

⁹ 50 C.F.R. § 216.105(b).

¹⁰ 50 C.F.R. § 216.106(a).

2) Comments on the Contents of an IHA for Site Characterization

In order to issue an IHA for site characterization or any offshore wind project, the Fisheries Service must ensure that the application meets the requirements for an IHA and that the IHA includes conditions that will guarantee the site characterization surveys have the least practicable impact on marine mammal species or stocks and their habitats in and around the project site. Oceana hopes the comments provided on these important elements will make the site characterization successful while also considering the adverse effects on marine mammals.

a) *Use Best Available Science*

The MMPA was the first congressional act to include a “best available science” mandate.¹¹ The statute requires use of “best scientific evidence available” in determining any waiver of the moratorium on the taking and importation of marine mammals and marine mammal products.¹² Additionally, MMPA implementing regulations require the agency to use the “best scientific information available.”¹³ The Fisheries Service must therefore comply with the “best available science” mandate in analyzing whether or not to authorize incidental takes.

The NARW is a critically endangered species that has experienced a large decline in the last decade. The most recent population estimate is just an estimated 340 remaining whales.¹⁴ This 2021 population estimate is a 2.3% decrease from the previous year's estimate. As NOAA considers the IHA renewal application, it must use the most recent population estimate.

NARWs are known to feed, socialize and breed in the U.S. northeast and eastern Canada before mothers migrate south to calve and then return to the Northeast. As the Federal Register notes, Vineyard Northeast's project “overlaps or is in close proximity” to the feeding Biologically Important Area (BIA)s NARWs from February-April. However, in the last decade the seasonal habitat usage of NARWs has shifted to include new waters and different seasonality. A study examining NARWs in southern New England waters from 2011-2019 found that they were found in this area in all seasons, with up to a quarter of the population in the area at any given time between December and May.¹⁵ The IHA application and analysis must be sure to use the most recent and best available science for this critically endangered species, including recent habitat usage patterns for the study area and up to date seasonality information. The Fisheries Service

¹¹ 16 U.S.C. §§ 1361 et seq. (mandating the use of “best scientific evidence” as well as the “best scientific information available” in several provisions, including the moratorium provision at 16 U.S.C. § 1371).

¹² 16 U.S.C. § 1371(a)(3)(A).

¹³ 16 U.S.C. § 1371(a)(3)(A); 50 C.F.R. § 216.105(c) (“[R]egulations will be established based on the best available information.”).

¹⁴ New England Aquarium. 2022. North Atlantic right whales' downward trend continues as updated population numbers released,

<https://www.neaq.org/about-us/news-media/press-kit/press-releases/north-atlantic-right-whales-downward-trend-continues-as-updated-population-numbers-released/>

¹⁵ Quintana-Rizzo et al. 2021. Residency, demographics, and movement patterns of North Atlantic right whales *Eubalaena glacialis* in an offshore wind energy development in southern New England, USA. *Endangered Species Research*. Vol. 45: 251–268,

should fully consider both the use of the area and the effects of chronic stressors on the health and fitness of NARWs.

Chronic stressors are an emerging concern for NARW conservation and recovery, and research suggests that a range of stressors on NARWs have stunted growth rates.¹⁶ Disruptive site characterization activities may not only startle NARWs in this area, but also cause chronic stress to the whales. The whales may seek other feeding areas at great energetic cost, decreasing their fitness, body condition and ability to successfully feed, socialize and mate.

The IHA renewal must be sure to use the most recent and best available science for this critically endangered species, including updated population estimates, recent habitat usage patterns for the study area, and a revised discussion of acute and cumulative stress on whales in the region.

b) Fully Consider Cumulative Effects

While an individual activity such as a site characterization may have negligible effects on the marine environment or a negligible number of interactions with protected species, many offshore wind-related activities are being considered in the region. It is important that the Fisheries Service fully consider the discrete effects of each activity and the cumulative effects of the suite of approved, proposed, and potential activities on marine mammals including NARWs and ensure that the cumulative effects are not excessive before issuing or renewing an IHA.

c) Project Conditions

Consistent with the requirement to achieve “the least practicable impact on such species or stock and its habitat,” the IHA must include conditions for the survey activities that will first avoid adverse effects on NARWs in and around the survey site and then minimize and mitigate the effects that cannot be avoided. This should include a full assessment of which activities, technologies and strategies are truly necessary to achieve site characterization to inform development of the offshore wind projects and which are not critical. If, for example, a lower impact technique or technology will provide necessary information about the site without adverse effects, that should be permitted while other tools with more frequent, intense, or long-lasting effects should be prohibited.

3) Vessel traffic associated with Wind Energy Area

Site characterization activities will increase the vessel traffic in and around the project area. The IHA must include a vessel traffic plan to minimize the effects of service vessels on marine wildlife including requirements for all vessels associated with the project, regardless of function, ownership, or operator to meet the following:

a) Observers

All vessels associated with the proposed site characterization should be required to carry and use protected species observers (PSOs) at all times when under way. Because visual sighting of

¹⁶ Stewart, et al. 2021. Decreasing body lengths in North Atlantic right whales. *Current Biology* 2021, 31, 1-6.

whales, including NARWs is difficult, particularly in low light conditions, the IHA should require service vessels to complement observer coverage with additional monitoring technologies, such as infrared (IR) detection devices for whales and other protected species. Research suggests that a complementary approach combining human and technological tools is most effective for marine mammal detection.¹⁷

b) Speed

Research suggests that reducing vessel speed can reduce risk of vessel collision mortality by 80-90 percent for large whales like the NARW.²⁴ Due to the risk of ship strikes to NARWs in the project area, the IHA should limit all vessels of all sizes associated with the proposed site characterization to speeds less than 10 knots at all times with no exceptions.¹⁸

c) Separation Distance

Consistent with Fisheries Service regulations under the Endangered Species Act for all vessels and aircrafts, the IHA must include requirements for all vessels to maintain a separation distance of at least 500 meters from NARWs at all times.

d) Vessel Transparency

To support oversight and enforcement of the conditions on the high-resolution geophysical (HRG) survey, the IHA should require all vessels to be equipped with and using a Class A Automatic Identification System (AIS) device at all times while on the water. This should apply to all vessels, regardless of size, associated with the project. Class A AIS is a cost-effective technology used in marine industries around the world. AIS provides information including the vessel's identity, location, course, and speed in a format that is compatible with most data collection, storage, and analysis programs.

e) Applicability and Liability

The IHA must require all vessels associated with the project, at all phases of development, follow the vessel plan and rules regardless of ownership, operator, contract. Exceptions and exemptions will create enforcement uncertainty and incentives to evade regulations through reclassification and redesignation. The Fisheries Service can simplify this by requiring all vessels to abide by the same requirements, regardless of size, ownership, function, contract, or other specifics. The IHA must also specify that developers are explicitly liable for behavior of all employees, contractors, subcontractors, consultants, and associated vessels and machinery.

f) Transparency and Reporting

The project will be a private enterprise conducted on shared public waters and as such, the IHA must include a requirement for all phases of the site characterization to subscribe to the highest level of transparency, including frequent reporting to federal agencies, requirements to report all

¹⁷ Smith, et al. 2020. A field comparison of marine mammal detections via visual, acoustic, and infrared (IR) imaging methods offshore Atlantic Canada. *Marine Pollution Bulletin*. 154 (2020) 111026.

¹⁸ Conn and Silber. 2013. Vessel speed restrictions reduce risk of collision-related mortality for North Atlantic right whales. *Ecosphere* (4)4. April, 2013. 1-16.

visual and acoustic detections of NARWs and any dead, injured, or entangled marine mammals to the Fisheries Service or the Coast Guard as soon as possible and no later than the end of the PSO shift.

To foster stakeholder relationships and allow public engagement and oversight of the permitting, the IHA should require all reports and data to be accessible on a publicly available website.

4) **Shutdown Requirements**

Despite the best information informing seasonal restriction on site characterization activities, it is likely interactions with NARWs will occur in and around the project site. The IHA must include requirements to use effective reactive restrictions that are triggered by detection of protected species by visual, acoustic, or other means before or during site characterization activities. Key conditions should include:

- Creation of clearance zones for NARWs that extend at least 1,000 meters with requirements for HRG survey vessels to use PSOs and Passive Acoustic Monitoring (PAM) to establish and monitor these zones with requirements to cease surveys if a NARW enters the clearance zone.
- A shutdown requirement if a NARW or other protected species is detected in the clearance zones noted above, unless necessary for human safety. If this exemption occurs the project must immediately notify the Fisheries Service with reasons and explanation for exemption and a summary of the frequency of these exceptions must be publicly available to ensure that these are the exception rather than the norm for the project.
- When safe to resume, HRG surveys should be required to use a soft start, ramp-up procedure to encourage any nearby marine life to leave the area.

5) **Conclusion**

Oceana is supportive of the Biden Administration's focus on development of offshore wind in U.S. waters as part of an effective and responsible response to the climate crisis. As the Administration advances offshore wind development projects, there is an opportunity to advance clean energy goals while protecting biodiversity.

Oceana recognizes the necessity of site characterization in the wind development process and urges the Fisheries Service to only issue an IHA for this survey if it includes a thorough discussion of the best available science discussed above and includes the range of conditions that will ensure the site characterization surveys are conducted responsibly with the least practicable impact on marine mammals.

Oceana's Comments on IHA- Vineyard Northeast

July 21, 2023

Page 8 of 8

Oceana looks forward to our ongoing engagement in this project and offshore wind more generally and appreciates the opportunity to provide these comments. These comments have been carefully developed and we consider these to be substantial comments deserving a response from the agency.

We look forward to working with you to advance responsibly developed offshore wind to meet this Administration's ambitious clean energy goals while protecting biodiversity, including the critically endangered North Atlantic right whale.

Thank you,

A handwritten signature in black ink, appearing to read "Gilbert A. Brogan". The signature is fluid and cursive, with a long horizontal stroke at the end.

Gib Brogan
Campaign Director
Oceana
Washington, DC



2611 Merrick Rd. #3
Bellmore, NY 11710

Re: Proposed IHA Vineyard Wind LLC NOAA NMFS 2023

July 21, 2023

Jolie Harrison, Chief, Permits and Conservation Division
National Marine Fisheries Service, Office of Protected Resources
1315 East-West Highway 13th Floor
Silver Spring MD 20910 | Phone (301) 427-8401
Via email to: ITP.Taylor@NOAA.gov

Dear Ms. Harrison,

Sea Life Conservation is a corporation formed under the not-for-profit laws of New York State. Sea Life Conservation uses a multidisciplinary approach to identify disruptive forces that present challenges to coastal and marine life, in order to ensure the fulfillment of a legacy of ecosystem health and its benefit to humanity for all of the future. Sea Life Conservation preserves coastal, marine, both freshwater and tidal wetland habitat, and other natural resources. Sea Life Conservation seeks to preserve natural resources that are assets which are held in the public trust.

Our organization appreciates the opportunity to comment on the Authorization proposed by the National Marine Fisheries Service (NMFS) in response to the requesting for Authorization by Vineyard Northeast, LLC to incidentally take marine mammals at lease areas OCS-A-0522 and OCS-A-0544 pursuant to the provisions of the Marine Mammal Protection Act which

authorizes NMFS to, under certain limited circumstances, permit such takes. Notice of the proposed authorization to which this comment applies was given in the Federal Register by the National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Department of Commerce, on June 21, 2023, "*Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Site Characterization Surveys Offshore From Massachusetts to New Jersey for Vineyard Northeast, LLC*" [88 Fed. Reg. 40212 to 40220].

CATEGORICAL EXCLUSION NOT APPROPRIATE FOR THIS IHA PERMIT

NMFS is in receipt of the knowledge that the beginning of a five-year Unexplained Mortality Event ("UME") in marine mammals on the U.S. Atlantic Coast is coincident with the advent of exploration of a variety of newly-leased areas on the U.S. Atlantic Outer Continental Shelf using HRG (High-resolution geophysical) and G&G (Geologic and Geophysical) surveys whose purpose is to characterize the seafloor and substrate for wind-turbine power plant construction-development projects.

It is quite well known that sales by the U.S. Bureau of Ocean Energy Management of leases for wind-power development shot up in 2016 and 2017, both in terms of frequency of such lease sales compared to times prior, and in terms of acreage. It is also quite well known that seafloor characterization activities by lessees and their assigns - which activities utilize the loud sound-generating equipment – typically begin, for each of lease area, within between a few months to year of the lease start date. NMFS is also in knowledge that *the span* of the UME (now going on in excess of six years) which began in 2016/2017 overlaps with the six years of conduct of HRG (High-resolution geophysical) and G&G (Geologic and Geophysical) surveys for offshore wind development, and that both the occurrence of such sound-generating HRG and G&G surveys by lessees and the cumulative areas subject to such surveys at any given time has increased overall during the time spanned by the UME.

Despite this, NMFS continues to categorically exclude incidental take authorizations, or "IHAs" for commercial activity from NEPA review, as it had done before the UME began. Even though seismic surveys (including use of "air gun arrays" and "boomers") and certain types of sonars have been known

to harm whales, NMFS is oft quoted as saying that because the sound intensities used during seafloor characterization for offshore wind are less than that for fossil fuel exploration, no serious injury or mortality is anticipated as a result of such activities for offshore wind. This conclusory leap is not substantiated by high-quality accurate and scientific information. While it may be the case that the sound intensities of surveys are substantially lower for offshore wind exploration than for fossil fuel exploration¹, NMFS has no empirical data that informs what is the minimum level of sound intensity (and at what sound frequencies) at which harm to whales begins to occur and without having such data, a stated expectation of "no mortality" isn't reasonable.

That is, NMFS is permitting the proposed activities without any empirically-determined benchmark for what is the injury-causing sound pressure level ('SPL') against which to measure the proposed activities.

A PTS (permanent threshold shift – i.e. deafness onset in some or all frequencies relevant to the animal) in hearing may be considered injurious, but there are no published data on what sound levels cause PTS in marine mammals. There are data that indicate the received sound levels at which temporary threshold shift (TTS) occurs, and PTS onset is "extrapolated" from TTS onset threshold level using an assumed growth function. No animal testing for PTS in any marine mammal exposed to such survey activity has been conducted. That is, NMFS doesn't have any empirical data on low-frequency baleen whale thresholds of harm to hearing – i.e. doesn't know what levels of sound cause deafness in these animals. Thus, the agency is proposing to permit activities that can have a significant impact on these animals without any empirically-determined sound pressure level (dB re 1 micropascal) 'benchmark for harm' against which to measure the proposed activities.

Neither NMFS, nor the Bureau of Ocean Energy Management, to date, has taken **any** effort to study spatio-temporal correlation between the whale deaths and the use of sound-generating equipment (at specific equipment

¹ For example, louder sounds need be used for fossil fuel exploration than for wind-turbine power plant development because detection depths below the sea floor for fuel reserves are greater than that needed for understanding substrate characteristics under the sea floor for pile-driving masts.

settings) typical of sea-floor exploration "site characterization" for offshore wind planning of development, even though the data on what equipment was used (at what settings, when, where and for how long) is certainly available or obtainable from the U.S. Coast Guard and lessee-developers.

Scientific inquiry involves dispassionately testing facts and observations against different plausible hypotheses, to see which hypothesis best fits the facts. **All** plausible causes of the whale deaths should be investigated dispassionately, including but not limited to the hypothesis that the widespread use of sound-generating equipment (HRG and G&G surveys) that has been used to explore the sea floor for offshore wind development (which surveys are more expansive and widespread than fossil fuel exploration surveys in the North and Mid- Atlantic) may have affected the whales' ability to perceive their surroundings, or may have had other direct physiological effects, or indirect mortality-influencing or reproductive effects on them, such as energy reserve alterations from reduced feeding or habitat mod effects on prey.

NMFS disregards guidelines issued by the Council for Environmental Quality (hereafter CEQ) for complying with NEPA² and the regulations implementing them promulgated by the CEQ which apply to all federal agencies in the following ways: NMFS has not substantiated its CATEX determinations with empirically-derived estimates of how sound generated by the survey equipment impacts whales, dolphins, and seals, has failed to consider the whale UME as an extraordinary circumstance that disqualify HRG (High-resolution geophysical) and G&G (Geologic and Geophysical) surveys from being categorically excluded from further/full NEPA review (i.e. even though a category currently exists, the existence of the UME and its coincidental occurrence in time to similar activities warrants further NEPA review resulting in an Environmental Impact Statement. Additionally, NMFS should have (but did not) review, in light of the UME, whether the CATEX categories should be revised.

A full NEPA review, culminating in an Environmental Assessment ("EA") or in an Environmental Impact Statement "EIS" is not required for a specific activity if it can be shown that the specific activity is one in a category

² National Environmental Policy Act

of actions that has been pre-determined to not individually or cumulatively have a significant effect on the quality of the human environment.

The publication titled *The Companion Manual for NOAA Administrative Order 216–6A*³ defines activities as qualifying for a Categorical Exclusion from further NEPA review, hereafter "CATEX", if and only if all of the following criteria are met:

- (a) the proposed action falls within one of the CE categories listed in Appendix F of this Manual,
- (b) the proposed action is not part of a larger action, and can therefore be reviewed independently from other actions under NEPA, **and**
- (c) there are no extraordinary circumstances that may require further analysis in an EA or EIS.

NMFS purports that the IHA qualifies as a CATEX because such issuance is given "under section 101(a)(5)(A) and (D) of the MMPA for the incidental ... take by harassment of marine mammals during specified activities ... for which no serious injury or mortality is anticipated."; Class B4 in Appendix F of the Companion Manual.

"All agencies of the Federal Government **shall** comply with the regulations in this subchapter." [40 CFR § 1507.1 emphasis added]. NMFS is a federal agency, and as such is required to comply. "[P]rocedures under this section [adopted by a Federal agency to establish whether an activity qualifies as a CATEX] **shall** provide for extraordinary circumstances in which a normally excluded action **may** have a significant environmental effect." [40 CFR 1508.4, **emphasis added**]. NMFS is required to provide for extraordinary circumstances in which a normally excluded action **may** have a significant effect. The purpose of further NEPA review (environmental impact review or environmental assessment) for ordinarily excluded activities when extraordinary circumstances arise, is to determine, for actions that **may** have an effect, whether they do. CEQ regulations implementing NEPA to which all federal agencies are subject, 40 CFR 1508.4, reveal that NMFS is not

³ Internet Source: <https://www.noaa.gov/sites/default/files/2021-10/NOAA-NAO-216-6A-Companion-Manual-03012018%20%281%29.pdf>, hereafter "The Companion Manual"

conscripted to, with certitude, conclusively pre-establish that there **is** an effect prior conduct of the (further) NEPA review which culminates in an EIS, only that there may be substantial effects of the proposed activities and that it is worthy of investigation that the review would provide.

Guidance for federal agencies on how to establish, apply, and revise categorical exclusions in accordance with section 102 of the National Environmental Policy Act (NEPA), 42 USC 4332, and the CEQ Regulations for implementing the procedural provisions of NEPA (CEQ regulations), 40 CFR Parts 1500-1508 [Memorandum for Heads of Federal Departments and Agencies, dated November 23, 2010, by Nancy H Sutley Chair of the Executive Office of the President of the Council on Environmental Quality, hereafter "Memorandum"] states: "[W]hen evaluating whether to apply a categorical exclusion to a proposed activity, an agency must consider the specific circumstances associated with the activity and may not end its review based solely on the determination that the activity fits within the description of the categorical exclusion; rather the agency must also consider whether there are extraordinary circumstances that would warrant further NEPA review."

Citing 48 Fed. Reg. 34263, 34265 (Jul. 28, 1983), the November 23, 2010 memorandum goes on to say "CEQ's prior guidance also urges agencies to consider whether the cumulative effects of multiple small actions 'would cause sufficient environmental impact to take the actions out of the categorically-excluded class."

The memorandum asks agencies to obtain useful substantiating information (to substantiate classification of an activity as a CATEX) by monitoring and/or otherwise evaluating the effects of the implemented actions, and to monitor the environmental effects of their categorically-excluded actions, to inform periodic reviews of existing categorical exclusions (p. 8, Memorandum)⁴, and states "[A]gencies should review their categorical exclusions", and should "exercise sound judgement about the appropriateness of categorically excluding activities in light of ... changing conditions that might present new or different environmental impacts or risks. The assumptions underlying the nature and impact of activities encompassed by a categorical exclusion may have changed over time" (p.16, Memorandum). In

⁴ "Findings must be based on high-quality, accurate technical and scientific information." (40 CFR 1500.1(b), 1502.24, cited at p.9 Memorandum).

establishing the process for review of categories to be excluded, "agencies should take into account factors including changed circumstances, how frequently the categorical exclusions are used, **the extent to which resources and geographic areas are potentially affected, and the expected duration** of impacts."

The guidance also states, "The level of scrutiny and evaluation during the review process [process of reviewing whether the CATEX categories should be revised] should be commensurate with...the extent to which relevant circumstances have changed since it was issued or last reviewed."

Review of whether IHA permitting under the MMPA for offshore wind (HRG and G&G) surveys should continue to be a category of action excluded from further NEPA review is now warranted: Large geographic areas are now potentially affected by the survey activity, circumstances have changed (a UME event coincident with when such surveys increased in occurrence and area has been recognized), and there has been a change in how frequently the categorical exclusions are used, since the activity type was first categorized as excluded.

What is more, the determination that the proposed action qualifies for a CATEX isn't appropriate, since the activity is approving takes that are a part of a larger action, and cannot reasonably be reviewed independently from other (similar) actions under NEPA, especially since marine mammals' range is such that they are **subject to survey activities in multiple** (in the case of whales and migratory dolphins, **dozens**) **of lease areas**. For example, North Atlantic Right Whales' birthing ground is off the coast of the southern states and their winter feeding area is only as far south as off the coast of Massachusetts. Northern migratory dolphins travel to southern North Carolina when the weather turns cold. In the North Atlantic, Humpback whales migrate annually between tropical breeding and mating areas in the late winter and spring, to high latitude feeding areas in the summer, autumn and early winter. There is a lot of variation in Humpback whale movement and migratory habit but it is clear that the vast majority of Humpbacks (a species well-represented in the UME) will be exposed to survey activities in numerous lease areas, call areas, and wind energy areas⁵.

⁵ There is future planning for surveys that are untethered to leases, either because they will be conducted by governmental agencies or their assigns long in advance of lease sale, or because of the recent "modernization rule" that deregulated the use of such equipment (such that in order to conduct surveys an ocean lease is no longer required) where the commercial explorer does not now have to be an assign of a responsible developer-lessee in order to conduct the activity, so long as the equipment is towed or boat-mounted rather than fixed to the sea floor, and can make the data available (for sale) to a future lessee-developer.

The separation of level A take (harassment resulting in direct injury) and level B take (harassment that is "disturb[ance]") is a dichotomy that often misleads to the conclusion that animals may either directly receive tissue injuries from the noise or else merely experience a transient behavioral response that is without substantial effect. It appears that the developer and NMFS has occasioned visitation into the pitfall of this unfounded conclusion. In reality the proposed activities are reasonably expected to have substantial effects (*other than PTS*⁶) on marine mammals mortality and reproduction that warrant consideration and estimation. The application and NMFS proposed authorization does not give such consideration and estimation. Therefore, NMFS should not approve the rule & LOA because it does not correctly estimate how many marine mammals will die or fail to reproduce as a result of the proposed activities.

With respect to the proposed activities, there are a myriad of (agency-ignored) ways survival and reproduction are likely to be impacted. Although "fitness" typically refers to differential survival and reproduction of the respective genotypes relative to others within a species (which is not studied here), abundance or population for any generation is of course determined by survival of, and reproduction by, constituents of the prior generation.

Quantitative descriptions of the expected changes in population number (changes to abundance) and form of population growth or decline for a particular population, and investigations of the forces and biological and physical processes causing those changes are in order. Any rational estimation of "take" within the meaning of the Marine Mammal Protection Act must take into consideration the physical processes causing those changes to assure they are all accounted for.

Addressing causal processes is important not only for estimating effect on populations but also because it provide a framework for mitigating reductions in populations. If, *as here*, an analysis has only given consideration to a small subset of relevant causal processes, the resulting statements as to the effects on a population will be spurious.

⁶ Permanent Threshold Shift, meaning some degree of permanent hearing loss in at least a portion of the audible frequency range of the animal.

Would mitigation techniques (and to what extent would such techniques) be successful in mitigating reductions in populations that would otherwise occur? Are such expected reductions in populations (given mitigation techniques are employed) acceptable in terms of balancing the population loss resulting from the activity against the benefit?

Permanent tissue damage to the body or hearing apparatus caused directly by the (HRG equipment, impact and vibratory pile driving and *drilling*) sound itself or by explosions is not the only mechanisms of harm. There are other mechanisms by which the proposed activities may induce increases in mortality and impair reproduction, both of which are known to impact populations. We itemize them, herein. They include: indirect effects of elevated mortality and lower reproductive success owing to disruption in feeding behaviors and energy-conserving migration behaviors from the animals' response to the sound-producing activity; elevated mortality resulting from temporary hearing impairments occasioning susceptibility to hazards in the environment; progressive hearing loss not accounted for in the utilized models of thresholds for permanent hearing harm; increased mortality from reduced physiological condition owing to stress caused by sound insults; erosion of the base of the food web (primary productivity upon which Baleen whales particularly depend) owing to the "trophic footprint" caused by population explosion of heterotrophic sessile animals exploiting a plethora of abundant new hard surfaces provisioned by the energy infrastructure ("marine urbanization") and concomitant cascade of reduced primary ocean productivity in the areas construction-developed for power production; ocean strata mixing due to turbulent wakes caused by ocean current passing installed cylindrical turbine masts where such strata mixing impairs localized planktonic blooms needed for dense zooplankton feeding areas upon which Baleen whales particularly depend; overlooked physical injury at the cellular level other than to the hearing apparatus; and progressive, permanent harm to hearing below what is currently recognized as the TTS (threshold for harm for temporary shifts in hearing).

UNSUBSTANTIATED ASSUMPTIONS IN THE DEVELOPER'S APPLICATION

Implicit in the contents of the developer's application⁷ are promulgated the **two unsubstantiated assumptions** :

- 1) That disruption of normal essential behaviors (feeding, breathing, nursing, and execution of behaviors by which the animal conserves energy during migration) do not result in any increase in mortality
- 2) That temporary hearing loss does not result in any mortality increase.

The contents of the developer application also appears **also** to promulgate **two other unsubstantiated assumptions**, namely:

- 3) That disruption of feeding or execution of behaviors by which the animal conserves energy during migration, does not result in any decrease in condition
 - a) which would affect whether sufficient energy stores or physiological condition necessary for conception is met,
 - b) which would affect pregnancy loss rate; AND
- 4) That disruption of courtship and mating behaviors does not result in any change in reproduction.

Clearly (3) and (4) can cause reduced reproductive success, and that reproductive success impairment also adversely affects "recruitment" (the number of new individuals added to a population each year).

If NMFS declines to reject the developer's application on the basis that the application implicitly makes these unsubstantiated assumptions and fails to make a supported quantitative assessment of the expected change in population from these causal processes, it can reasonably be concluded that, should such authorization as is proposed to be made by NMFS be actually made, it'd be capricious.

⁷ 'Developer's application' here refers to the report by the developer's assign (JASCO) submitted as an application for take by the developer: See JASCO Applied Sciences. 2022. *New England Wind Offshore Wind Farm: Application for Marine Mammal Protection Act (MMPA) Rulemaking and Letter of Authorization*. Version 8.0, Document 01648. Prepared by JASCO Applied Sciences for Park City Wind LLC. Internet Source: <https://www.regulations.gov/document/NOAA-NMFS-2023-0080-0005>. Hereafter, this document will be referred to as Document 01648 Version 8.0]

- Omitted are each such avenue of harm and its' respective increase in mortality and/or reduction in reproduction
- If it did not expressly preclude that such mechanism has the potential result in harm, the developer grossly underestimated (as non-contributory) such harm by ignoring contributions to mortality and impairment of reproduction effected through these mechanisms, and utterly failing to properly estimate them.

These points speak to the inadequacy of NMFS' consideration of the developer's application to take marine mammals. NOAA Fisheries' (NMFS') review of the developer's application, and indeed the developer's application is myopically focused on harm caused by direct and swift permanent hearing damage, and does not give adequate, or any, consideration to or quantification of the increases in mortality or reproduction caused by the proposed activities through these other mechanisms – not for each, nor for any, species of marine mammal in the Atlantic waters of the region in which the mentioned activities are proposed to be conducted.

Authorization for incidental takings, if granted at this time by NMFS would be capricious or irrational because the finding that the takes will have a negligible impact on the species or stock(s) implicitly assumes that the impacts of the proposed activities to survival and reproduction

- of energy stores sufficient for migration being compromised from survey-caused feeding disruptions
- from foiling of energy-conserving migratory behaviors (such as eliciting wide careens around areas where survey activities and UXO detonations and pile driving are being conducted)
- from trophic effects (adverse effects on prey populations), including
 - reduction of populations of copepod prey of NARW due to noise (habitat modification affecting prey of marine mammals)
 - reduction of populations of cephalopod prey of Sperm whale due to noise (habitat modification affecting prey of marine mammals)

- reductions of populations of prey of other marine mammals due to disruptions in fish migration from infrasound (large scale modification of habitat whereby infrasound generators will operate in the OCS in this and other lease areas for over thirty years)
- from disruption of intraspecific communication in marine mammals (masking, changes to call sound frequency, volume, propensity, and frequency in time)
- of energy store sufficient for conception and full-term pregnancy (birth success) being hindered from survey-caused feeding disruption
- of energy acquisition adequate to maintain a body condition sufficient to carry out ordinary immune function
- of tissue damage from reactive oxygen species arising from exposure to noise in levels less than that which would cause PTS.
- of temporary hearing shifts causing increase in risk of death from ordinarily-encountered hazards (ship strike, etc)

are zero/negligible. However, such assumptions are not substantiated with any basis in reason or empirical study.

INJURY TO THE HEARING APPARATUS OCCURS BELOW THE “PTS” (SOUND PRESSURE LEVEL CAUSING FULL/PARTIAL PERMANENT DEAFNESS) AND CAN ALSO OCCUR BELOW THE PERCEIVED “TTS” (SOUND PRESSURE LEVEL CAUSING TEMPORARY HEARING LOSS)

Noise previously thought to be “benign” in that it does not manifest in permanent threshold shift soon after an exposure event, can cause irreversible neural damage in mammals after repeated or cumulative exposure. [Wang Y, Ren C. Effects of repeated "benign" noise exposures in young CBA mice. *J of the Association for Research in Otolaryngology*. 2012 Aug;13(4):505-15. doi: 10.1007/s10162-012-0329-0. Epub 2012 Apr 25. PMID: 22532192; PMCID: PMC3387307.]. Post-exposure recovery of threshold sensitivity to sound, or in layman’s terms regaining ordinary perception of and reaction to sound, after “TTS” has been assumed to indicate reversal of damage to delicate structures

of the inner ear. However, following noise-induced damage to the ear, damage can be progressive. In a mammalian experiment, Rapid, extensive, and irreversible loss of neuronal synapses was found to have occurred within 24 h post exposure, and delayed and progressive loss of cochlear neurons over the course of months was found, even though the hair cells remained and regained normal function [Kujawa SG, Liberman MC. Adding insult to injury: cochlear nerve degeneration after "temporary" noise-induced hearing loss. *J Neurosci.* 2009 Nov 11;29(45):14077-85. doi: 10.1523/JNEUROSCI.2845-09.2009. PMID: 19906956; PMCID: PMC2812055.] . Threshold for tissue injury has been found to occurs at lower threshold than the threshold for Temporary Threshold Shift (TTS) onset [See Houser, D.S. When Is Temporary Threshold Shift Injurious to Marine Mammals?. *J. Mar. Sci. Eng.* 2021, 9, 757. <https://doi.org/10.3390/jmse9070757>]. While the animals may regain an observable behavioral reaction to sound, as measured by gross reaction to sound, even though the injuries persist, a gross behavioral reaction to sound or an auditory evoked potential at a specified frequency isn't necessarily an indication that the animal is able to hear normally. For example, an animal who is unable to hear complex auditory scenes, or integrate⁸ sounds, or who suffers tinnitus or hyperacusis, each and all of which can have survival or other fitness consequences, may still have gross behavioral reactions in sound tests showing responsivity to frequency at specified sound levels. BOEM's and NOAA's nearly singular focus^{9,10} on PTS distance (distance from activity at which partial or full permanent deafness will be induced in the whale) as the only indicator of "take" (premature death or reproductive failure affecting the population) is not reasonable. What is more, NOAA has no empirically-

⁸ Temporal-spectral integration is a phenomenon where sound actually experienced is the result of neural processing to optimize hearing for detection of patterns from acoustic inputs likely to be relevant to the animal. [Räsänen O, Laine UK. Time-frequency integration characteristics of hearing are optimized for perception of speech-like acoustic patterns. *J Acoust Soc Am.* 2013 Jul;134(1):407-19. doi: 10.1121/1.4807499. PMID: 23862817. <https://pubmed.ncbi.nlm.nih.gov/23862817/>] This is akin to adjusting the equalizer on one's car radio so that you can hear the signal as intended and to remove sharp peaks and dips that create harsh, unpleasant sounds, or that interfere with the sounds that are important to you.

⁹ NOAA Fisheries has assumed the PTS zones associated with HRG equipment use is small. E.g. it states: "Level A harassment is not expected ...due to the small PTS zones associated with HRG equipment types planned for use." [<https://www.federalregister.gov/documents/2022/10/12/2022-22150/takes-of-marine-mammals-incident-to-specified-activities-taking-marine-mammals-incident-to>]. PTS zones are zones in which sounds are so loud that Permanent (hearing) Threshold Shifts (permanent partial or full deafness) in the animal occur.

¹⁰ NOAA Fisheries and the developer-applicant appear focused on mitigating only onPTS (clearing NARW from those areas in which sound production is so loud that it will cause deafness):

derived direct measure of thresholds for PTS harm, but rather PTS is modelled from (limited) TTS data.

Accumulation of Marine Construction, also called marine urbanization, is associated with stupendous rise in organisms which consume plankton. Artificial structures in marine environments increases the availability of hard surfaces that can be colonized by sessile invertebrates (mussels, barnacles, anemones, hydroids (cnidarian polyps, hydrozoa), tunicates, and others) which are heterotrophs. For example, the hard surfaces in the world's ports have created new habitat for 950,000 metric tons of sessile invertebrates, which themselves release about 600 metric tons of CO₂ per day and consume 5 million mega joules of energy daily. [The Outsized Trophic Footprint of Marine Urbanization. M.E. Malerba, C.R. White, and D.J. Marshall, 2019. *Frontiers in Ecology and the Environment*, Vol. 17, Issue7, September 2019, pp.400-406. <https://doi.org/10.1002/fee.2074>]. See Fig 2.

The mechanisms by which sessile heterotrophs reduce productivity is that they collectively consume vast quantities of autotrophs. By reducing autotroph density in the water, sessile heterotrophs reduce the capacity (per unit volume of water) of the autotrophs in that water to draw dissolved carbon out of the ocean water. Artificial structures increase sessile heterotrophs by two mechanisms. One mechanism is that they greatly increase hard surface areas that sessile heterotrophs are able to grow on, and the heterotrophs directly reduce the autotrophs by eating them. The second mechanism is that structures (such as towers, platforms, barges, piers, quays, and turbine masts and rotors) cast shadows; The shading reduces autotroph proliferation. A third mechanism is that large wind-turbine power plants with large turbines create water vapor or fog that has approximate semblance to cloud cover, reducing direct sunlight, photosynthesis, and autotroph proliferation. A fourth mechanism is that the turbulent wakes that are formed by water currents encountering and then passing the masts and other structures induces sea-strata mixing that blends water from strata that normally separated into layers that differ in temperature, light, and salinity, thrusting autotrophs around in turbulent wakes that cause them to spend more time further from the water's surface where the light, their energy source, is most accessible to them, and also profoundly modifying the top layer where they

would ordinarily have the chance to 'bloom' if conditions are right. Immense (900-foot tall) wind-turbines, and the concrete scour pads at their bases are rationally expected to contribute to sessile autotroph proliferation by increasing hard surface area on which sessile heterotrophs can grow. Shade-cast by the marine construction and consumption of plankton by suspension-feeding sessile heterotrophs that colonize the hard surfaces of the marine construction are expected to reduce productivity on the outer continental shelf by such animals feeding on (and reducing densities of) plankton, a large proportion of which plankton prey are autotrophic producers. The sessile inverts also themselves produce CO₂. The estimated quantitative effect of the contribution to productivity reduction via this "trophic footprint" of fouling heterotrophs, when taken together with that of other wind-turbine power plant projects planned on the outer continental shelf (some of which are floating wind farms in which each turbine sits on a 2-acre shade-casting tethered platform) has not been estimated with respect to mass quantity (tonnage) of excess dissolved CO₂ that will result from the U.S. Atlantic Offshore wind program's impairment of primary productivity on the Outer Continental Shelf.

The authors conclude that "[e]very square meter of artificial structure cancels out the primary production of up to 130 square meters" of water, "essentially robbing marine ecosystems of their productivity". [See M.E. Malerba, C.R. White, and D.J. Marshall, 2019. *Frontiers in Ecology and the Environment*, Vol. 17, Issue7, September 2019, pp.400-406. <https://doi.org/10.1002/fee.2074>], a conservative estimate, according to the researchers, with the trophic footprint (net effect of alteration of the natural trophic pyramid), potentially having double that effect]. Estimates by other researchers show a 1:8 ratio of square area of marine urbanization to area of primary production cancelled by its existence.

Fouling on hard-surfaces that accompanies marine urbanization (construction in marine environments). Dense communities of filter-feeding sessile heterotrophs appear that reduce density of photosynthetic plankton responsible for removing dissolved inorganic carbon from ocean water and turning it into organic life forms

Baleen whales (suborder Mysticeti) are filter-feeders. Phytoplankton blooms prompt proliferation of zooplankton that results in density of zooplankton sufficient for North Atlantic Right Whales to surpass the "break-even" point at which the energy acquired by filter feeding exceeds the amount of energy expenditure required to filter feed. Population explosion of sessile heterotrophs from marine urbanization results in a reduction of productivity which serves as the very base of the food web in the ocean –from which many species of Baleen whales are only removed by a single trophic layer in between, the zooplankton¹¹. The Take Authorization request, nor the proposed rule accounts for Baleen food scarcity resulting from the trophic footprint of the massive infrastructure of the wind-turbine power plant(s), which marine urbanization underwater new surface area on which sessile heterotrophs can colonize includes not just mast and jacket surface area and offshore sub stations but also concrete scour pads, each 1.8 to 3 acres of surface area (per mast scour pad) x 133 pads plus rockpile cable coverings, plus offshore substation scour pads which each are 9-10 acres of concrete.

Reduction in Baleen whale prey is also reasonably expected to result from cloud trails whereby turbines create water vapor condensation in conditions under which it would not naturally be produced, which condensation shades the ocean a larger proportion of the time (when such conditions exist), and alters photosynthesis rates, thus altering the natural processes of phytoplankton proliferation in our ocean over the outer continental shelf. As phytoplankton both represents the base of the entire ocean food web and also the single biggest means of directly removing dissolved carbon from the ocean, this is a large concern.

Fog forms when two nearly saturated air masses with different temperatures are mixed. This is due to the non-linearity of the dependence of the saturation water vapor pressure on temperature. The mixed air mass is

¹¹ For example, North Atlantic Right Whales are specialized to Calanus Copepods.

over-saturated and condensation sets in. Shading by the condensate reduces ocean productivity in the Outer Continental Shelf because far less light reaches the ocean surface on those days when the conditions are right for water vapor formation. Those days are more frequent due to the movement of the turbine blades.



This is a photograph of massive cloud trails caused by blade rotation of the turbine blades at the Horns Rev Wind Turbine Power Plant in Denmark.

THE EFFECT OF TURBINE OPERATIONAL NOISE ON THE ABUNDANCE OF COPEPOD AND OTHER ZOOPLANKTON PREY OF NARW AND OTHER BALEENS

The effect of operational noise of wind-turbine power plants on oxidative stress of the copepod prey of NARW requires study. Noise induces oxidative stress in copepods, as inferred by oxidative stress indicators under noise conditions as compared to controls. [e.g. Tremblay, Nelly & Leiva, Laura & Beermann, Jan & Meunier, Cédric & Boersma, Maarten. (2020). Effects of low-frequency noise and temperature on copepod and amphipod performance. Proceedings of Meetings on Acoustics. 37. 10.1121/2.0001275. internet source: <https://asa.scitation.org/doi/pdf/10.1121/2.0001275>] . The chronic effect of noise created during offshore wind turbine operations, which can have duration of operation of twenty five to thirty five years, must be

understood. Since sensitive receptors cover the whole body of crustaceans to detect their surroundings, those low frequency noises may disrupt basic ecological and physiological functions. Researchers designed an experiment to understand the joint effect of noise and temperature on copepod. The copepod *Acartia tonsa* is commonly used as a proxy for a range of fundamental processes that relate to marine planktonic crustaceans. Noise from operational wind turbines appears to alter the capacity of Copepod (an Arthropod Crustacean), and challenge gathering the energy required to fulfil all their biological functions (e.g. development, growth, reproduction, and survival by mean of escape behavior), concluded the researchers, who discovered that lowfrequency noise spurs antioxidant activities which is a signal of oxidative stress, and concluded that chronic exposure is likely to deplete antioxidant enzymes important for detoxifying ordinary products of metabolism. [See Tremblay, Leiva, Beermann, Meunier, Boersma, 2019. Effects of low frequency noise and temperature on copepod and amphipod performance. Proc. Mtgs. Acoust. 37, 040005 (2019). <https://doi.org/10.1121/2.0001275>] Depleted antioxidant activities has observed across almost every taxonomic group exposed to noise that has been studied, including mammals¹² and even plants¹³. E.g. Koc, Ersoy, Ilhan, Erken, Sahin, 2015. Is rosuvastatin protective against on noise-induced oxidative stress in rat serum?. Noise Health, 17, 11–16. ; Also See McFadden, Ohlemiller, Ding, Shero, Salvi (2001). The influence of superoxide dismutase and glutathione peroxidase deficiencies on noise-induced hearing loss in mice. Noise Health, 3, 49–64 . Traffic noise induces oxidative stress and phytohormone imbalance in two urban plant species. Basic and applied ecology, Vol 60, pp.1-12. doi: 10.1016/j.baae.2022.01.010. Therefore, while the specific effect of operational turbine noise on the particular Copepod species that NARW prey upon has not been studied, the copepod *Acartia tonsa* is commonly used as a proxy for a range of

¹² E.g. Koc, Ersoy, Ilhan, Erken, Sahin, 2015. Is rosuvastatin protective against on noise-induced oxidative stress in rat serum?. Noise Health, 17, 11–16. ; Also See McFadden, Ohlemiller, Ding, Shero, Salvi (2001). The influence of superoxide dismutase and glutathione peroxidase deficiencies on noise-induced hearing loss in mice. Noise Health, 3, 49–64

¹³ Zohreh Haghighi Kafash, Z. Haghighi Kafash, Shahrzad Khoramnejadian, S. Khoramnejadian, Ali Akbar Ghotbi-Ravandi, A. Akbar Ghotbi-Ravandi, & Somayeh Farhang Dehghan, S. Farhang Dehghan. (0000). Traffic noise induces oxidative stress and phytohormone imbalance in two urban plant species. Basic and applied ecology, Vol 60, pp.1-12. doi: 10.1016/j.baae.2022.01.010

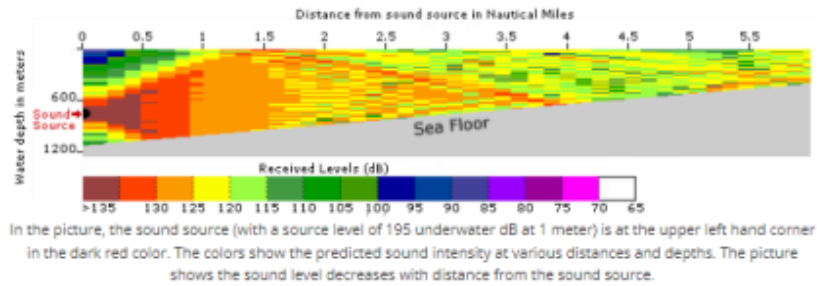
fundamental processes that relate to marine planktonic crustaceans. Therefore, the best scientific evidence suggests that NARW and other Baleen whale prey are likely to be affected. No turbine-operation-induced Baleen-whale prey scarcity has been quantitatively estimated, and the effects on different whale species has not been taken into account by NMFS.

SPREADING MODELS DO NOT ACCOUNT FOR "RING" OF ELEVATED SPL DISTANT FROM THE SOURCE RESULTING FROM REFLECTION OF SOUND OFF THE WATER'S SURFACE AND OTHER SURFACE REFLECTION

The spreading models that have been used for sound spreading by developers and BOEM in other publications during the process of assessing noise levels for activities associated with offshore wind development do not adequately account for sound bouncing off the underside of the water's surface and other surface reflection.

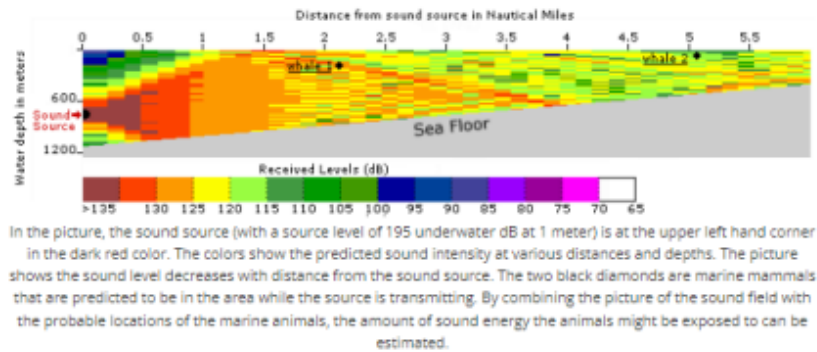
Diagram and description courtesy of dosits.org :

The following figure shows the level of sound at different distances and depths as the sound travels away from the ATOC/NPAL source towards the island of Kauai. Sound travels in all directions away from the source, but only the slice related to the humpback whale example is shown. The ATOC/NPAL source is moored on the seafloor at a depth of approximately 800 meters (2600 feet), approximately 14.8 kilometers (8 nautical miles) north of Kauai. It has a source level of 195 underwater dB at 1 meter and operates at a frequency of 75 Hertz. In this picture, the source is in the upper left hand corner near the dark red. The gray area represents the sea floor. The colors in the picture show the sound level decreasing as it moves away from the sound source. You can also see that the level of sound varies with both water depth and distance from the source.



This figure shows sound traveling away from the ATOC source towards Kauai (due south). As the sound travels further away from the source, the level of sound decreases.

The third step is to combine the sound field created in the first step with the marine animal field created in the second step. One example of what a slice of this picture could look like is found below.



This is the same sound field shown in the picture above. As before, the sound source is at the upper left hand corner near the dark red. The gray area represents the sea floor. The two black diamonds are humpback whales that are predicted to be in the area while the source is transmitting. By combining the picture of the sound field with the probable locations of the marine animals, the amount of sound energy the animals might be exposed to can be estimated.

DISRUPTION OF ESSENTIAL BEHAVIORS AND PROCESSES HAVE GREAT POTENTIAL TO AFFECT SURVIVAL AND REPRODUCTION

The use of sound for communication and acquisition of information about the environment has evolved across many generations and constitutes

an important aspect of marine mammal behavior. Given the increasing level of anthropogenic noise in the ocean, it is expected that high-intensity anthropogenic noise (both in Offshore Wind Turbine construction and operations, as well as during ensonification that is used to characterize and study the sea floor) will impact communication and foraging behaviors involving marine mammal sound production and ability to hear sounds coming from prey or conspecifics over the sounds produced by ocean-bottom site characterization, construction, and operation typical of Offshore Wind development.

Blue whales were found less likely to produce calls in the presence of mid-frequency active sonar. Reduction was more pronounced when the sound source was closer to the animal, and when the anthropogenic sound level was higher. Anthropogenic noise, even at frequencies well above the whales' sound production range, has been demonstrated to have a strong probability of eliciting changes in vocal behavior [Melcón ML, Cummins AJ, Kerosky SM, Roche LK, Wiggins SM, Hildebrand JA (2012) Blue Whales Respond to Anthropogenic Noise. PLoS ONE 7(2): e32681. <https://doi.org/10.1371/journal.pone.0032681>; February 29, 2012]. This debunks the assumption¹⁴ promulgated in most assessments that anthropogenic noise is only reasonably likely to be significant to the animal when the frequency matches the frequencies range to which the species communicates or is most attuned. The implications for marine mammals of anthropogenic noise likely to be emitted from wind-turbine power plants during operation have not been studied and could result in changes that cause a mortality-influencing decrease in condition of these and other marine mammals in areas within auditory reach of the project. Given the grand scale on which wind projects are expected to be built and that so much of the OCS is intended to be developed, and given that migration of whales are long-range, it is unlikely that they will be able to migrate outside the auditory reach of operational noise from wind projects without substantial energetic costs. Disruption of the making of calls for foraging or mating or to maintain group cohesion may reduce survival and reproduction and thus can indeed be injurious at the population level. Habitat modification constitutes "harm" within the meaning of a take in the Endangered Species Act. Our U.S.

¹⁴ On which use of weighting functions are based

Supreme Court has concluded habitat modification is a take if it actually injures wildlife, with injury including “perturbations that cause them not to use ... otherwise suitable habitat.” Assessments need to estimate reasonable effects on the NARW of how far a distance from the turbine the effects are expected to attenuate below harassment level, and must determine whether – within that distance – overlapping areas of harassment would result from adjacent turbine to create a larger enjoined harassment area. Sound is a pressure wave which is created by a vibrating object, and moves through a medium such as water or air. When the pressure wave reaches the hearing apparatus, it is perceived as the experience of sound. When we use the word sound or noise to include an effect on other organ systems, we do not mean that the experience of sound or the experience of noise causes the effect, but that the pressure waves that cause the experience of noise can also cause other effects in the body. Thus it is not required that the pressure waves be experienced as a type of noise which causes aversion (nor even that they be audible) in order for such pressure waves to cause actual physiological harm. However, aversion to audible noise is an adaptation present in many animals which serves to prevent physiological harm by the pressure waves themselves on organs and tissues, not only to hearing organs. Noise causes destructive Reactive Oxygen Species in the mammalian vascular system and in organs (not limited to the organs of the hearing apparatus). [E.g. Bayo Jimenez MT, Frenis K, Kröller-Schön S, Kuntic M, Stamm P, Kvandová M, Oelze M, Li H, Steven S, Münzel T, Daiber A. *Noise-Induced Vascular Dysfunction, Oxidative Stress, and Inflammation Are Improved by Pharmacological Modulation of the NRF2/HO-1 Axis. Antioxidants (Basel)*. 2021 Apr 19;10(4):625. doi: 10.3390/antiox10040625. PMID: 33921821; PMCID: PMC8073373]. A consequence to marine animals of various taxa of noise exposure is increased Reactive Oxygen Species (“ROS”), such as hydrogen peroxide, superoxide, and hydroxyl radicals which are produced by normal bodily processes but cause oxidative damage to diverse cellular components, including membranes, proteins, and DNA, if they are not "neutralized" by antioxidant defenses. Two important enzymes of the cochlear antioxidant defense system¹⁵ are metalloenzymes that work together to regulate ROS production in virtually every cell in the body [Id.]. These protective systems

¹⁵ cytosolic copper/zinc superoxide dismutase, and selenium-dependent glutathione peroxidase

can become overworked and depleted from exposure to noise, and subject the organism to intense damage at the cellular level.

Thus, behavioral aversion to noise should not necessarily be viewed as maladaptive, even if the avoidance behavior contributes to reduced feeding and reduced reproductive success (i.e. even if the behavioral response to noise has some recruitment¹⁶ consequences) because it may be protective of the integrity of tissues and of essential biochemical processes by preventing noise from eliciting oxidative stress and depleting antioxidant systems that offer such protection. Because of this, noise shouldn't be viewed as a harmless stimulus of an annoyance or spooking response of an animal. Rather, pressure waves bearing certain properties not only produce the experience of noise but are also sources of physiological harm against which aversions, behavioral avoidance, and spooking serves to protect the individual by bringing the individual away from the source of harm. The consequences (loss of effective habitat, immune compromise, energetic tradeoffs creating lowering of survival risk or reproductive success, etc.) of the animal removing itself from physiological harm also constitutes harm. Reactive oxygen species (molecules) can oxidize lipids and proteins - including membrane bound enzymes and receptors- , destroy or destabilize membranes, disrupt ionic balance, interfere with cellular signaling and calcium homeostasis, attack DNA and disrupt protein synthesis, alter cytoskeletal components, and damage DNA repair and transcription processes, and can also lead to nerve cell damage through excitatory amino acids. Activity of these protective systems of antioxidant enzymes have been shown to be present throughout the body, in cochlea, brain, retina (eye), and lung tissues in mammals [Pierson, M. G. and Gray, B. H. 1982) Superoxide dismutase activity in the cochlea. *Hear. Res.* 6: 141-51]. While adverse effects of noise is widely known to occur through a psychological stress response from auditory perception, as well as (if intense enough) directly harm the auditory apparatus, adverse effects can also occur through other pathways, in other organ systems including mammalian vascular and nervous systems, and have been shown to occur as the result of noise. [See e.g., Cheng H, Wang B, Tang C, Feng G, Zhang C, Li L, Lin T, Du F, Duan H, Shi M, Zhao G. Infrasonic noise induces axonal degeneration of cultured neurons via a Ca²⁺ influx pathway. *Toxicol Lett.* 2012 Jul

¹⁶ In population dynamics, this is addition of new individuals to the population, such as by birth and maturation

20;212(2):190-7. (Nerve axon degeneration) doi: 10.1016/j.toxlet.2012.05.015. Epub 2012 May 22. PMID: 22626861] Oftentimes, the effects of noise at the fringes of the hearing range of the animal are assumed to have little to no effect. The purpose of “M-weighting functions” is to be able to predict how loudly a sound of a certain frequency is perceived by the animal. Sounds at frequencies outside of those to which an animal is most sensitive must be actually louder to have the same level of perceived loudness as a sound at a frequency to which an animal is more attuned/sensitive. The assumption often made is that because hearing is less sensitive at the outer limits of the hearing range, the effects to the animal (potential for adverse impact) will be insignificant or non-existent unless inordinately loud. Specifically, what is assumed is that perceived loudness is a reliable measure of potential impact¹⁷. However, more recent studies show both that this assumption is not met¹⁸ and that sound outside of the ordinary frequencies at which an animal hears can have adverse consequences on the nervous and cardiovascular systems. ¹⁹

Large wind-turbine power plant operation generates noise that has pronounced infra and low-frequency sound signatures. Operation of large wind-turbine power plants produces both infrasound and low-frequency noise. Exposure to low-frequency noise is associated with chronic stress in The North Atlantic Right Whale as evidenced by empirical study²⁰. Once large-size turbines are installed and are operational within the lease area, they will be

¹⁷ [Southall, B. L., Bowles, A. E., Ellison, W. T., Finneran, J. J., Gentry, R. L., Greene, C. R., ... Tyack, P. L. (2007). Marine mammal noise exposure criteria: Initial scientific recommendations. *Aquatic Mammals*, 33(4), 411–414. <https://doi.org/10.1578/AM.33.4.2007.411>].

¹⁸ [See Weichenberger M, Bauer M, Kühler R, Hensel J, Forlim CG, Ihlenfeld A, et al. (2017) Altered cortical and subcortical connectivity due to infrasound administered near the hearing threshold – Evidence from fMRI. *PLoS ONE* 12(4): e0174420. <https://doi.org/10.1371/journal.pone.0174420>]

¹⁹ [Du F, Yin L, Shi M, Cheng H, Xu X, Liu Z, Zhang G, Wu Z, Feng G, Zhao G. Involvement of microglial cells in infrasonic noise-induced stress via upregulated expression of corticotrophin releasing hormone type 1 receptor. *Neuroscience*. 2010 May 19;167(3):909-19. doi: 10.1016/j.neuroscience.2010.02.060. Epub 2010 Mar 4. PMID: 20206673.; Pei, ZH., Chen, BY., Tie, R. et al. Infrasound Exposure Induces Apoptosis of Rat Cardiac Myocytes by Regulating the Expression of Apoptosis-Related Proteins. *Cardiovascular Toxicology* 11, 341 (2011). <https://doi.org/10.1007/s12012-011-9126-y> ; Ana Lousinha, Maria João R. Oliveira, Gonçalo Borrecho, José Britoa, Pedro Oliveira, António Oliveira de Carvalho, Diamantino Freitas, Artur P. Águas, Eduardo Antunes. Infrasound induces coronary perivascular fibrosis in rats. *Cardiovascular Pathology* 37 (2018) 39–44. <https://www.sciencedirect.com/science/article/abs/pii/S1054880718302862?via%3Dihub>; Pei Z, Zhuang Z, Xiao P, Chen J, Sang H, Ren J, Wu Z, Yan G. Influence of infrasound exposure on the whole L-type calcium currents in rat ventricular myocytes. *Cardiovasc Toxicol*. 2009 Jun;9(2):70-7. doi: 10.1007/s12012-009-9037-3. Epub 2009 Apr 22. PMID: 19387569].

²⁰ [Rosalind M. Rolland, Susan E. Parks, Kathleen E. Hunt, Manuel Castellote, Peter J. Corkeron, Douglas P. Nowacek, Samuel K. Wasser and Scott D. Kraus. Evidence that ship noise increases stress in right whales. *Proceedings Royal Society B: Biological Sciences* Vol. 279, No. 1737 (22 June 2012), pp. 2363-2368]

low-frequency noise generators for their thirty-or-so year operation. The power plants collectively will have cumulative effects. Three to five million acres are expected to be built within 20 years. Chronic, too-frequently repeated, or unmodifiable (inescapable) stressors can precipitate cardiovascular dysregulation in mammals causing tachycardia, hypertension, and reduced heart rate variability; These and other reactions affect brain function and cause hormonal and immunologic changes in mammals that are self-perpetuating [Grippe AJ. The utility of animal models in understanding links between psychosocial processes and cardiovascular health. *Soc Personal Psychol Compass* 5: 164–179, 2011] and have health and survival consequences. It is a widely studied phenomenon that stress responses ordinarily adaptive to improve survival from threats that increase mortality. The physiological mechanisms that ordinarily ensure the survival of a life form (such as fleeing from a predator or an oncoming vessel) and that are inherent to that organism can become pathophysiological when the organism is exposed to triggers and stressors from which it cannot remove itself or ones that are frequently encountered in a changed environment characterized by repeat onset of the stress response²¹.

CLOSING

Respectfully, we suggest NMFS not approve the proposed Authorization, as the incidental take estimates only account for a mere subset of physical processes that are known to cause, or that are reasonably expected to cause, abundance species of marine mammal to lower (i.e. populations to reduce). At such time as the respective causes are considered, NMFS can consider the effects summed across all causes and make a proper take estimate, then decide whether or not to authorize based upon the balance of harms with benefits of the proposed activities.

Sea Life Conservation notes that the Marine Mammal Protection Act (MMPA) established a national policy to prevent marine mammal species and population stocks from declining, and to " protect[] and encourage[them] to

²¹ E.g. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6612673/>

develop to the greatest extent feasible commensurate with sound policies of resource management ... [T]he primary objective of their management should be to maintain the health and stability of the marine ecosystem. Whenever consistent with this primary objective, it should be the goal to obtain an optimal sustainable population keeping in mind the carrying capacity of the habitat." [16 USC §1361(6)]

Due to multiple avenues by which marine mammals are expected to be affected adversely by the proposed activities, serious and reasonable concerns for the effects that this set of projects have, together with other projects in the greater U.S. Atlantic offshore wind program which are numerous and cover much of the Outer Continental Shelf's area, make a CATEX inapplicable, warrant a spatio-temporal study of whether survey activity could be causing or greatly contributing to the UME, and render capricious an IHA that takes into account neither synergistic effects from activities in multiple lease areas, nor indirect effects on reproduction and survival (e.g. turbine operation evoking long-term changes to habitat, and site characterization surveys causing changes to feeding and impairing energy conservation during migration), nor physiological effects of reactive oxygen species or inability to escape stressors.

Effects on marine life of sound production during lease site exploration and throughout operations of the life of the wind-turbine power plants in the U.S. Atlantic Offshore Wind Program are not receiving a proper accounting by developers or by the Bureau of Ocean Energy Management. Effects are being substantially underestimated and reasonably expected impacts are not receiving adequate consideration. This unfortunately means that even though power production from wind is obviously renewable, it cannot yet legitimately be called sustainable without proper study. The large-scale environmental changes to marine habitat and ecosystems that peer-reviewed studies indicate will occur due to the effects of noise, sea strata mixing, and weather resulting from the pace, size, methods, and scale of development currently planned is expected to effect lasting changes to marine habitats, some of which are likely to be irreversible. The harm of irreversible alterations to marine ecosystems of offshore wind development – which harms have the potential to devastate at a far more rapid pace than does climate change - are not being balanced in

a rational way with the harms of climate change to guide the pace of development for total harm minimization.

The commonly held perception that there's virtually endless ocean area for the marine fauna and flora displaced or impacted by offshore wind power plant projects to exist in sufficient numbers and without adverse impact to their respective ecosystems is a fallacy. The size of the Atlantic Ocean is immense relative to that of the U.S. Outer Continental Shelf ('shelf'), which is a limited resource. The epipelagic zone, which is the upper stratum, or the roughly first 200 meters down from the ocean's surface, has different community composition of organisms and overall productivity in those parts of the Atlantic ocean where it sits above the shelf than the very same (comparable-depth) upper stratum of the ocean where it sits above very deep ocean water. Both the shelf's underwater land surface, meaning the seafloor in the Outer Continental Shelf region, and the very temperate physical characteristics²² of the ocean over the shelf and its sound- and light- reflective properties, and the shelf's proximity to coastal biological communities contribute to the uniqueness and higher productivity²³ in the waters of the shelf compared with waters located at the same stratum sitting atop much deeper waters located away from the cliff demarcating the precipitous edge of the shelf. Quantitatively and qualitatively different marine ecosystems exist in the waters over, and benthos of, the Outer Continental Shelf than in the Atlantic Ocean broadly. It has been announced that it is the intention of the United States government to foster **covering a sizable percent** of the Outer Continental Shelf **in less than two decades** with wind-turbine power plants and their associated infrastructure, by passing millions of acres of shelf area through stages of designation, nomination, offer, lease, and approval, that would make it available for construction development, in order to meet the extremely aggressive time-scheduled benchmarks set for production of renewable energy. It is very plainly apparent from the clear guidelines issued by CEQ that the extent to which resources and geographic areas are potentially affected and the frequency of the use of the CATEX for such marine

²² relative to the sea floor of deep ocean

²³ Productivity involves the capture of dissolved-in-ocean-water and atmospheric (in-air gaseous) inorganic carbon by life forms to manufacture organic matter using solar energy

mammal IHAs warrant immediate review of the propriety of the descriptions of those categories of action for which further NEPA review (of incidental harassment authorization) in the (form of EA and EIS) is excluded by NMFS.

We also note that the ability for any developer to detect and report whether it has exceeded the levels of take authorized by NMFS is woefully limited because (other than for entanglements) NMFS has yet to formulate and offer ways for developers to estimate deaths and reproductive failures that result from developers permitted activities. Many species of marine mammal spend a considerable proportion of time underwater and have inconspicuous blows, causing the probability that an animal will be detected given that it is present within hundreds of meters to be only 1 in a hundred or even less. Given that BOEM (and now BSEE) has promulgated no rule requiring passive acoustic monitoring, the probability of a false negative marine mammal presence detection is high. Cumulative insults resulting in lowering of survival are not readily observable by any developer as a documentable carcass observation. Even for activities that cause death from PTS not long after the activity that caused the PTS, the death may occur miles from the activity which caused the death, combined with the fact that most marine mammals sink after death means that carcasses would not likely be detected even where activities proximately cause reasonably prompt mortality. Thus, absence of observed carcasses cannot reasonably be taken as evidence that a developer has stayed within authorized take levels. Understanding of how fecundity and survival are impacted indirectly by each of those mechanisms we enumerate herein, supplemented by sample-taking and observations of marine mammals of various species (feces collection, blood samples, changes in feeding behavior, density monitoring of prey, measured zooplankton kill zone diameters, other behavioral observations of marine mammals in the vicinity of and away from survey activities), as well as estimates of extra migration distances caused to be traversed by avoidance of permitted activities and their noisescapes (and some sense of the condition and survival tradeoffs of the detours, based on relating energy budget to condition) are needed.

For the same reason of high probability of false negative for marine mammal detection, detection by a PSO (protected species observer) as trigger for shutdown procedure is inadequate. **Passive Acoustic monitoring for NARW to improve detection probability for mitigation via**

shutdown should be required as a condition for the conduct of any HRG or G&G survey activities authorized.

Reporting requirements can be improved. Reporting requirements currently read, "Vineyard Northeast must submit a draft comprehensive report on all activities and monitoring results within 90 days of the completion of the survey or expiration of the IHA, whichever comes sooner. The report must describe all activities conducted and sightings of marine mammals, must provide full documentation of DRAFT 9 methods, results, and interpretation pertaining to all monitoring, and must summarize the dates and locations of survey operations and all marine mammal sightings (dates, times, locations, activities, associated survey activities). The draft report must also include geo-referenced, time-stamped vessel track lines for all time periods during which acoustic sources were operating. Tracklines must include points recording any change in acoustic source status (e.g., when the sources began operating, when they were turned off, or when they changed operational status such as from full array to single gun or vice versa). GIS files must be provided.." It is imperative that complete equipment model and settings used, (not just on/off and array/single toggle status) be recorded. This means frequency, power, an audiogram of the sound signature of the device, and for impulsive noise – how many pulses, time between pulses, and any rest periods. The surveyor should be required to keep an audio record of the Sound Pressure Levels outside of the exclusion zone to ensure the exclusion zone size is appropriate. It is also recommended to record at the expected depth x distance combination at a sampling of the locations where heightened SPL is expected on the imaginary surface of the underwater torus or "donut ring" generated by reflection of sound off the underside of the ocean water's surface (see section on reflection, herein), particularly under conditions of calm sea when reflection is expected to be predictable; A ring of heightened SPL at extended distance from the noise source can occur due to reflection which is not accounted for by cylindrical spreading models alone.

A handwritten signature in black ink, appearing to read 'Alena Walters', written over a horizontal line.

Alena Walters, Executive Director
Sea Life Conservation
212 608 6112
sealifeconservation@proton.me
www.sealife-conservation.org



ITP Taylor - NOAA Service Account <itp.taylor@noaa.gov>

"VINEYARD NORTHEAST" and "VINEYARD MID-ATLANTIC Public Comment

1 message

ty1ash2@aol.com <ty1ash2@aol.com>

Mon, Jul 17, 2023 at 3:36 PM

To: "ITP.Taylor@noaa.gov" <itp.taylor@noaa.gov>

Ms Harrison,

Vineyard Northeast requested an incidental harassment authorization ("IHA") to "take" or "harass" 19 different endangered and protected marine mammal species from Massachusetts to New Jersey for its Vineyard Northeast project.

I strongly oppose the harassment of 9,711 marine mammals by "Level B" for marine site characterization surveys off NY/NJ for two offshore wind projects. Hundreds of whales, dolphins, sea turtles, the endangered Atlantic Sturgeon are just a few that have died over the past few months with offshore work that has already been done. Not to mention all the other sea life that has not been washed ashore.

I urge you to do more research before any more permits are given out and before any irreversible negative impacts occur. It is your duty to protect our precious natural resources in our ocean. You can stop this. There are studies out there that do show offshore wind is not good and other countries are turning away from this. You need to look further than the studies that fit the offshore wind narratives.

Sincerely,

Regina Littwin



ITP Taylor - NOAA Service Account <itp.taylor@noaa.gov>

STOP HARASSMENT OF 9,711 MARINE MAMMALS BY LEVEL B FOR MARINE SITE CHARACTERIZATION SURVEYS FOR VINEYARD NORTHEAST AND VINEYARD MID-ATLANTIC

1 message

Devin Waldron <drwaldron95@gmail.com>
To: ITP.Taylor@noaa.gov

Fri, Jul 21, 2023 at 9:55 PM

Jolie Harrison
Chief, Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
ITP.Taylor@noaa.gov

Dear Jolie Harrison,

I do not support Vineyard Northeast and Vineyard Mid-Atlantic's IHA request to "take" or "harass" 19 different endangered and protected marine mammal species from Massachusetts to New Jersey, totalling upwards of 9,711 marine mammals.

Though I am in favor of clean energy, it cannot be an achieve-at-all-cost scenario where marine life and coastal populations are impacted in a way that outweighs any energy benefits. Marine life is needlessly impacted despite there being better and already-approved locations, and too many have already paid the price and will tragically continue to. We must protect the waters off our shores—the waters off of New Jersey and New York are generally one of the most diverse in the world with 33 species of whales (including the endangered North Atlantic Right Whale), dolphins and a porpoise (5 endangered and all protected species), 4 species of seals (all protected) and 5 species of sea turtles (all endangered and protected). Plus, the threatened Piping Plover resides along the coast of New Jersey. We must do more to protect these beautiful creatures.

The equipment being used can be harmful to marine life (naturally, why else request an IHA), but more investigations must be done before any more requests can be considered. As you know, these IHAs allow "the potential to disturb (but not injure) a marine mammal or marine mammal stock in the wild by disrupting behavioral patterns, including, but not limited to, MIGRATION, BREATHING, NURSING, BREEDING, FEEDING, or SHELTERING." The idea that someone can think an animal will not be

injured (or worse) but can have its migration, breathing, nursing, breeding, feeding, and/or sheltering affected is disturbing.

Vineyard Northeast and Vineyard Mid-Atlantic's IHA request must be denied in order to further protect marine populations that are already suffering and for the sake of coastal populations fighting to protect their well-being. Please act before it's too late.

Sincerely,
Devin

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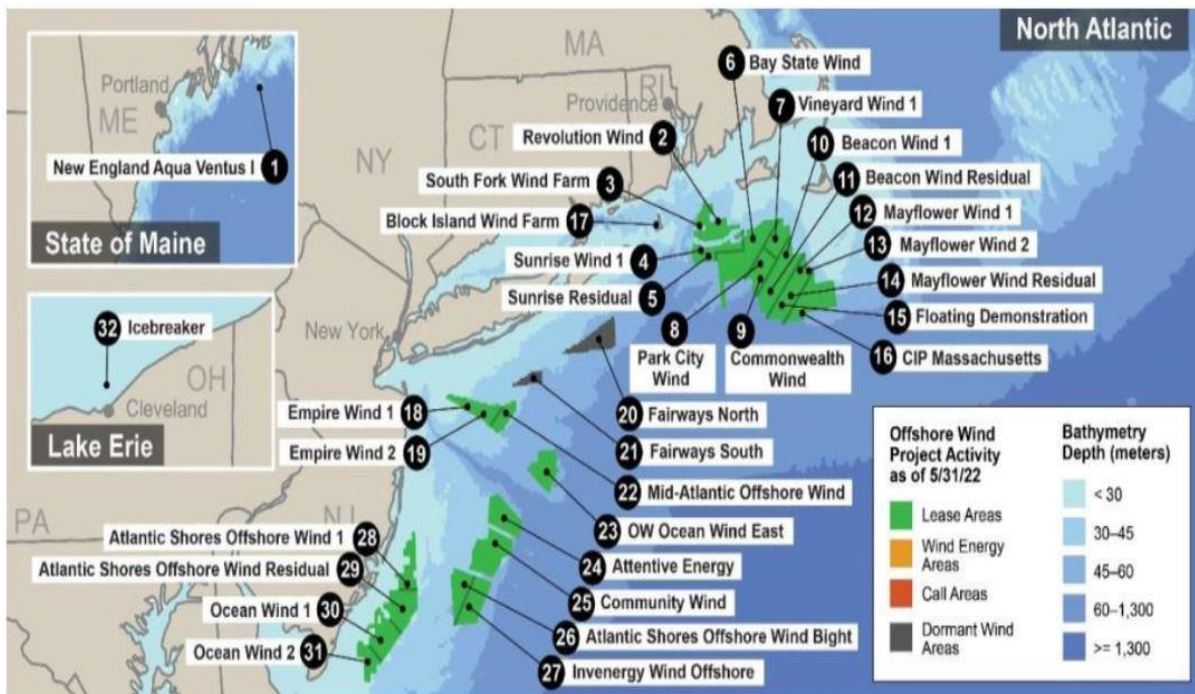
Devin Waldron
(201) 602-7417
drwaldron95@gmail.com

Vineyard Wind Northwest

[Incidental Take Authorization: Vineyard Northeast, LLC's Marine Site Characterization Survey from Massachusetts to New Jersey | NOAA Fisheries](#) Comments should be addressed to Jolie Harrison, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service. Written comments should be submitted via email to ITP.Taylor@noaa.gov.

Humpback vocalizations, described by Roger Payne as “the most evocative, most beautiful sounds made by any animal on Earth,” are currently hurtling through interstellar space on the *Voyager Golden Record* among the most important bits of information that humans in 1977 wished to communicate to whatever alien intelligences might intercept them in the distant future.

*And here we are 46 years later, numb to the beauty of those songs.
Whale Song is to be replaced with noise of Wind Turbines.*



Offshore Wind along the Atlantic Coast is a habitat invasion along the migratory corridor of the critically endangered North Atlantic Right Whale (NARW), other marine mammals and shorebirds. Because of the scale of this project, the standard regulatory procedures that rely upon formulas and mitigation are not sufficient or credible. The cumulative risk of all these separate authorizations will destabilize the marine ecosystem

No more authorizations!

Since December, 2022, a lot has changed and is continuing to change. Please hold up!

- 39 whales and 37 dolphins have stranded for unknown reason (more every week).
- The Government Accountability Office (GAO) has opened an investigation to evaluate the connection of whale deaths to offshore wind. Sound from survey vessels is strongly suspected as a cause for these strandings.
- NOAA's March 2023 "Synthesis of Science" was made public, exposing the threats that Offshore Wind poses to our ecosystem.

This lease location is integrated with biologically important areas for NARW, Humpback, Fin, Sei and Minke Whales. It warrants extreme precaution. These whales are already struggling for survival.

The proposed survey area overlaps or is in close proximity to feeding biologically important areas (BIA)s for North Atlantic right whales (Cape Cod Bay and Massachusetts Bay BIA, February-April/Great South Channel and Georges Bank Shelf Break BIA, April-June), humpback whales (March-December), fin whales (year-round/March-October), sei whales (May-November), and minke whales (March-November), as well as overlaps the migratory BIA for North Atlantic right whales (November 1-April 30) (Iabrecque *et al.*, 2015). In addition, the proposed survey area overlaps with the area south of Martha's Vineyard and Nantucket, referred to as "South of the Islands," which has been identified as relatively new year-round core North Atlantic right whale foraging habitat (Oleson *et al.*, 2020; Quintana-Rizzo *et al.*, 2021).

<https://www.federalregister.gov/d/2023-13118/p-53>

The primary objective of the MMPA is to protect the "health and stability of our marine ecosystem." More research is needed. These words from "Synthesis of Science" Executive Summary tell us what we need to know – risk cannot be predicted.

"The recommendations indicate an enormous amount of **research is still needed** in order to understand the impact of OSW on our environment and fisheries, **but time is limited**. A timely, productive **regional science plan** for offshore wind could have resulted in an enhanced ability to understand the environmental interactions from the first large-scale OSW projects, especially on a cumulative scale." (Synthesis of Science, Executive Summary, pg 28)

The take analysis presumes a stable ecosystem, where the whales can move to another feeding ground – where the food will actually be there – *where there won't be yet another survey ship!*

NOAA's "Synthesis of Science" outlines the many threats to the ecosystem in a 300+ page report, concluding more study is needed to better understand the impacts OSW development will have on the marine ecosystem.¹ It humbly acknowledges all that is **not known** about Habitat Modification due to construction and operation noise and vibration, electromagnetic fields (EMF), and thermal radiation from cables, as well as secondary gear entanglement (pg 16). A lot can go wrong here!

"OSW structures modify oceanic response, which may have significant effects on fundamental ecosystem processes. Disruptions in connectivity may pose a risk to certain subpopulations with planktonic larvae" [pg 18]]

¹ <https://repository.library.noaa.gov/view/noaa/49151>

Whales as a solution to climate change

Everyone knows, or should know, that whales are nature's solution to climate change. Indeed, The International Monetary Fund suggests the **policy goal** should be to return these whales *to their pre-whaling populations to fight climate change*. What remarkable logic.

It is worth taking time to reflect on the importance of whales, as well as the paradoxical relationship between whales and phytoplankton. The more whales, the more phytoplankton – and so on – the more whales, the more krill.

Below is from “Nature's Solution to Climate Change,” published in 2019. It explains to those who are hearing this for the first time the value of the whales from a monetary and survival perspective.

<https://www.imf.org/en/Publications/fandd/issues/2019/12/natures-solution-to-climate-change-chami>

The carbon capture potential of whales is truly startling. Whales accumulate carbon in their bodies during their long lives. When they die, they sink to the bottom of the ocean; each great whale sequesters 33 tons of CO₂ on average, taking that carbon out of the atmosphere for centuries. A tree, meanwhile, absorbs only up to 48 pounds of CO₂ a year.

Protecting whales could add significantly to carbon capture because the current population of the largest great whales is only a small fraction of what it once was. Sadly, after decades of industrialized whaling, biologists estimate that overall whale populations are now less than one fourth what they once were. Some species, like the blue whales, have been reduced to only 3 percent of their previous abundance. Thus, the benefits from whales' ecosystem services to us and to our survival are much less than they could be.

But this is only the beginning of the story.

The whale pump

Wherever whales, the largest living things on earth, are found, so are populations of some of the smallest, **phytoplankton**. These microscopic creatures not only contribute at least 50 percent of all oxygen to our atmosphere, they do so by capturing about 37 billion metric tons of CO₂, an estimated 40 percent of all CO₂ produced. To put things in perspective, we calculate that this is equivalent to the amount of CO₂ captured by 1.70 trillion trees—four Amazon forests' worth—or 70 times the amount absorbed by all the trees in the US Redwood National and State Parks each year. **More phytoplankton means more carbon capture**

The policy goal to restore and maintain resilient sea life populations in the face of climate change (health and stability) cannot be second place to Offshore Wind Turbines. How vain to think a man-made machine is worth more.

Hubris is one of the great renewable resources.
P.J. O'Rourke

HISTORY

NARW (North Atlantic Right Whale)

- Pre-whaling population= tens of thousands²
- Population < 340

Humpback Whale

- Pre-whaling population=240,000³
- Population < 1,400

Fin Whale

- Pre-whaling population= 360,000
- Population < 7,000

Minke Whale

- Pre-whaling population= 265,000
- Population < 22,000

“The vast majority of non-calf female NARW mortality is anthropogenic”

“Had NARW increased at the annual rate at which they are capable, the species' numbers would be almost double what they are now, and their current emergency would not be so dire.”

<https://royalsocietypublishing.org/doi/10.1098/rsos.180892>

Wind turbines are neither clean nor green. It's a new pollutant - acoustic sound. Whales use sound to navigate, find food and communicate. The humpback whale can hear its songs over hundreds of miles and mothers "whisper" to their calves to keep them nearby safe.

Each stage of Wind development deforms the sounds of the ocean - from geological surveys, to the construction booms, to the engine noise of boat traffic and finally to the perpetual swish of pressure waves produced during the turbine's operating life.

95% of the humpback whale population was killed by whaling. This endangered species cannot be sacrificed for an intermittent electric energy source. All deaths from human interaction, whether by boat strike, entanglement, plastic or acoustic trauma, are attributed to mankind. Counting them independently is a shell game to make the numbers look smaller. NOAA's "Synthesis of Science" memorandum on offshore wind interactions is littered with the need for more research, but study "time is limited," a warning that speaks above all else to the unpredictable and irreversible harm ahead.

The North Atlantic Right Whale (NARW) is even more threatened than the humpback, with only 70 females. NARW will be the first great whale in modern history to go extinct as a consequence of the USA government's environmental failures to protect them. A pittance of funds is available to assist with protecting them using new technology; why not satellites to track their location instead of using primitive sightings and acoustic buoys? Much more can be done to improve "dynamic management based on the whales' location" and make the ocean safer for them, but it is not being timely done.

² <https://www.ifaw.org/journal/north-atlantic-right-whale-population-estimate-falls-short?>

³ <https://www.montana.edu/kalinowski/teaching/documents-and-images/14%20CONGEN%20-%20READING%20-%20Whales%20before%20whaling%20-%20Science.pdf>



ITP Taylor - NOAA Service Account <itp.taylor@noaa.gov>

Vineyard Wind Northwest Incidental Take Authorization Comments

1 message

Elizabeth Quattrochi <eequat@gmail.com>

Sat, Jun 24, 2023 at 9:59 AM

To: ITP.Taylor@noaa.gov

Cc: Elizabeth Quattrochi <eequat@gmail.com>

Comments should be addressed to Jolie Harrison, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service.
Written comments should be submitted via email to ITP.Taylor@noaa.gov

Attn: Jolie Harrison, Chief, Permits and Conservation Division

Attached please find my comments on Take Authorization for Vineyard Wind Northwest, due July 21, 2023. Thank you!
If you have any questions or if I need to submit this differently, please let me know. I am an individual and do not represent any organization.



Vineyard Wind Northwest.docx

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