

By Electronic Mail to ITP.Carduner@noaa.gov

May 30, 2019

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

RE: Comment on Takes of Marine Mammals Incidental to Construction of the Vineyard Wind Offshore Wind Project

Dear Ms. Harrison,

On behalf of the Conservation Law Foundation (“CLF”), National Wildlife Federation (“NWF”), Natural Resources Defense Council (“NRDC”), Defenders of Wildlife, Humane Society of the United States, Humane Society Legislative Fund, Whale and Dolphin Conservation, International Fund for Animal Welfare, Mass Audubon, NY4WHALES, and Inland Ocean Coalition, and our millions of members, we submit these comments to the National Marine Fisheries Service (“NMFS”) in support of a proposed incidental harassment authorization (“IHA”) for Vineyard Wind LLC during construction of its commercial energy project off the coast of Massachusetts. 84 Fed. Reg. 18346 (April 30, 2019) (hereafter “Project”).

Our letter is organized into 3 sections: (1) the background related to our support for offshore wind generally and the status of North Atlantic right whales in the Project Area; (2) our unanimous support for the protective monitoring and mitigation measures contained in this proposed IHA; and (3) our potential concerns with NMFS’s IHA analysis and renewal process going forward.

* * *

I. BACKGROUND

Our organizations are united in support of responsibly developed offshore wind energy as a critically needed climate change solution and have long advocated for policies and actions needed to bring it to scale in an environmentally protective manner. We believe Vineyard Wind’s Project in federal waters off New England will, if responsibly developed with care to avoid, minimize, and mitigate potential environmental impacts, have substantial benefits to

society in its urgent transition away from dirty, climate-altering fossil fuels to a clean energy economy. When built, this 800 MW project is expected to provide enough electricity to power approximately 400,000 homes.¹

As NMFS is aware, Vineyard Wind entered into a landmark agreement (“Agreement”) with NRDC, NWF, and CLF to deploy additional mitigation measures to protect the North Atlantic right whale during activities pertaining to the Project’s construction and operations. This landmark set of commitments to ensure the Project is built and operated in a way consistent with protection of the highly endangered North Atlantic right whale. We congratulate Vineyard Wind for these commitments, which set an important precedent for the other offshore wind projects that are also moving forward and for U.S. offshore wind development as a whole. We urge NMFS, with its obligations under Endangered Species Act (“ESA”) and Marine Mammal Protection Act (“MMPA”), to incorporate all of the protective measures called for by the Agreement into this IHA, as well as subsequent IHAs for other offshore wind projects moving forward in the U.S.

A. The Marine Mammal Protection Act

Congress enacted the MMPA because “certain species and population stocks of marine mammals are, or may be, in danger of extinction or depletion as a result of man’s activities.”² The statute seeks to ensure that species and population stocks are not “permitted to diminish beyond the point at which they cease to be a significant functioning element of the ecosystem of which they are a part,” and do not “diminish below their optimum sustainable population.”³ Congress intended for NMFS to act conservatively in the face of uncertainty when authorizing activities harmful to marine species.⁴ This careful approach to management was necessary because of the vulnerable status of many species and because it is difficult to measure the impacts of human activities on marine mammals in the wild.⁵

At the heart of the MMPA is its “take” prohibition, which establishes a moratorium on the capture, harassing, hunting, or killing of marine mammals, and generally prohibits any person or vessel subject to the jurisdiction of the United States from taking a marine mammal on the high seas or in waters or on land under the jurisdiction of the United States.⁶ Harassment is any act that “has the potential to injure a marine mammal or marine mammal stock in the wild” or to

¹ See www.vineyardwind.com.

² 16 U.S.C. § 1361(1).

³ *Id.* § 1361(2); see also *Conservation Council for Hawaii v. Nat’l Marine Fisheries Serv.*, 97 F. Supp. 3d 1210, 1216 (D. Haw. 2016).

⁴ H.R. Rep. No. 92-707 (Dec. 4, 1971), as reprinted in 1972 U.S.C.C.A.N. 4144, 4148.

⁵ 16 U.S.C. § 1361(1), (3).

⁶ *Id.* §§ 1362(13), 1371(a).

“disturb a marine mammal . . . by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering.”⁷

NMFS may grant exceptions to the take prohibition. As relevant here, the agency may authorize, for not more than a one-year period, the incidental, but not intentional, “taking by harassment of small numbers of marine mammals of a species or population stock” if the agency determines that such take will have “a negligible impact on such species or stock.”⁸ The agency must prescribe permissible methods of taking to ensure that the activity has “the least practicable adverse impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance[.]”⁹ NMFS must also establish monitoring and reporting requirements.¹⁰ No later than 45 days after receiving an application for an IHA, NMFS must publish a proposed authorization and open a 30-day comment period.¹¹

B. Status of North Atlantic right whales and other large whales

The Project area is habitat for six large and six small cetacean species.¹² Of the six large whale species, four (fin whale, sei whale, sperm whale, and North Atlantic right whale) are listed as endangered under the ESA and as depleted and strategic stocks under the MMPA. Six small cetacean species are also likely to be present in the Project area, including the harbor porpoise, known to be one of the most noise-sensitive marine mammal species.

As the agency is aware, the conservation status of the North Atlantic right whale is particularly dire. Although the species has been listed as endangered under the ESA for decades, recent scientific analysis confirms that the population has been declining since 2010 due to entanglements in commercial fishing gear and ship strikes. In the last two years, at least 20 animals are known to have been killed, and the population is now estimated to be no more than 420 individuals. Moreover, females are more negatively affected than males by the lethal and sublethal effects of human activity, surviving to only 30-40 years of age with an extended inter-calf interval of approximately ten years.¹³

⁷ *Id.* § 1362(18)(A).

⁸ *Id.* § 1371(a)(5)(D)(i).

⁹ *Id.* § 1371(a)(5)(D)(ii)(I).

¹⁰ *Id.* § 1371(a)(5)(D)(ii)(III).

¹¹ *Id.* § 1371(a)(5)(D)(iii).

¹² 84 Fed. Reg. at 18,350, Table 2.

¹³ Pace III, R.M. *et al.*, “State-space mark-recapture estimates reveal a recent decline in abundance of North Atlantic right whales,” *Ecology and Evolution*, vol. 7, no. 21, pp. 8730-41 (2017); Corkeron, P., *et al.* “The recovery of North Atlantic right whales, *Eubalaena glacialis*, has been constrained by human-caused mortality.” *Royal Society Open Science*, vol 5, art. 180892 (2018).

In the wake of an alarming number of detected deaths of North Atlantic right whales in 2017, NMFS declared an Unusual Mortality Event (“UME”),¹⁴ which devotes additional federal resources to determining and—if possible—mitigating the source of excessive mortality. This designation is still in effect. Moreover, ongoing UMEs exist for the Atlantic populations of minke whales (since January 2017) and humpback whales (since January 2016).¹⁵ Alarming, 59 minke whales have stranded between Maine and South Carolina from January 2017 to March 2019.¹⁶ Elevated numbers of humpback whales have also been found stranded along the Atlantic Coast since January 2016 and, in a little over three years, 88 humpback whale mortalities have been recorded (data through February 18, 2019), with strandings occurring in every state along the East Coast.¹⁷ The declaration of these three large whale UMEs by the agency in the past few years, for which anthropogenic impacts are a significant cause of mortality, demonstrates an increasing risk to whales from human activities along the U.S. East Coast.

Given the highly endangered status of the North Atlantic right whale, NMFS is obligated by both the ESA and the MMPA to protect this species from additional harmful impacts of human activities. The agency is also obligated by the MMPA to consider the full range of potential impacts on all marine mammal species, including minke and humpback whales, and harbor porpoises which are highly sensitive to noise, that are known to utilize the survey area and surrounding areas before issuing an IHA with appropriate protection, mitigation, and monitoring measures. NMFS must use the best available scientific information on marine mammal presence and density, as required by law.¹⁸ Considering the elevated level of threat to all federally protected large whale species and populations in the Atlantic, including waters off Rhode Island and Massachusetts, and emerging evidence of dynamic shifts in the distribution of large whale habitat, NMFS must ensure that any potential stressors posed by the proposed surveys are mitigated to effectuate the least practicable impact on affected species and stocks.¹⁹

¹⁴ NOAA-NMFS “2017-2019 North Atlantic Right Whale Unusual Mortality Event.” Available at: <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2019-north-atlantic-right-whale-unusual-mortality-event>.

¹⁵ NOAA-NMFS, “2016-2019 Humpback whale Unusual Mortality Event along the Atlantic Coast.” Available at: <https://www.fisheries.noaa.gov/national/marine-life-distress/2016-2019-humpback-whale-unusual-mortality-event-along-atlantic-coast>; “2017-2019 Minke whale Unusual Mortality Event along the Atlantic Coast.” Available at: <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2019-minke-whale-unusual-mortality-event-along-atlantic-coast>.

¹⁶ *Id.*

¹⁷ NOAA-NMFS, “2016-2019 Humpback whale Unusual Mortality Event along the Atlantic Coast,” *supra* note 14; *see also* <https://www.newsday.com/long-island/suffolk/whale-washed-ashore-fire-island-1.18812449>.

¹⁸ 16 U.S.C. §§ 1362(19), §§ 1362(27).

¹⁹ *Id.* § 1371(a)(5)(D)(ii)(I).

II. SUPPORT FOR THE MONITORING AND MITIGATION MEASURES CONTAINED IN THE PROPOSED IHA

Our organizations support the protective mitigation and monitoring measures contained in the proposed IHA and found within the Agreement. In authorizing take by incidental harassment under the general authorization provision of the MMPA, NMFS must prescribe “methods” and “means of effecting the least practicable adverse impact” on marine mammals and set additional “requirements pertaining to the monitoring and reporting of such taking.”²⁰ In light of the risks posed to the North Atlantic right whale and other endangered and/or strategic marine mammal stocks by the construction outlined in the Proposed IHA, NMFS has an obligation to impose robust avoidance, mitigation, and monitoring requirements to protect these species to the maximum extent practicable. Below, we highlight the beneficial and strong mitigation measures that Vineyard Wind agreed to take to protect the North Atlantic right whale, which the Agency has thoughtfully incorporated into the Proposed IHA. We also make recommendations regarding how the mitigation and monitoring measures described in the Proposed IHA could more closely align with those described in the Agreement, to ensure the species is maximally protected under the MMPA as well as the ESA.

A. Background on best management practices for North Atlantic right whales during offshore wind construction

Over a dozen wildlife conservation organizations recently endorsed a suite of Best Management Practices (“BMPs”) for the protection of the North Atlantic right whale during wind energy construction and operations of fixed foundation offshore wind projects off the U.S. East Coast.²¹

These BMP’s were advised by the January 23, 2019 Agreement between Vineyard Wind and CLF, NWF, and NRDC to protect critically endangered North Atlantic right whales. Under the historic agreement, Vineyard Wind agreed to institute a variety of protective measures to keep right whales safe while installing and operating turbines at its proposed 84-turbine project off the coast of Massachusetts. Among other measures, turbine construction will be curtailed in the winter and early spring when the North Atlantic right whales may be in the area, and there will be comprehensive monitoring to ensure that construction does not take place when whales are near the site. Vineyard Wind also agreed to dampen construction noise that disturbs the whales’ ability to communicate, find food, and stay on their migratory path. Critically important, the agreement also includes mandatory vessel speed limits. These right whale protections will

²⁰ *Id.* § 1371(a)(5)(D)(vi).

²¹ Available at: <https://www.nrdc.org/resources/best-management-practices-north-atlantic-right-whales-during-offshore-wind-energy>.

reduce the potential for Level A take to zero and significantly limit potential Level B take; as such, the Agreement provides an important template for other offshore wind projects.²²

The BMP's were also advised by the attached letter addressed to BOEM and NMFS and dated September 19, 2018, in which five of the world's leading scientific experts on North Atlantic right whales provide their recommendations for "adequate and effective mitigation of impacts to the North Atlantic right whale during offshore wind development and operations." In this letter, right whale scientists recommend a seasonal prohibition for the Rhode Island/ Massachusetts and Massachusetts Wind Energy Areas on pile driving from January 1 to April 30 and "if development activities absolutely cannot be avoided" the implementation of an "enhanced mitigation protocol" for pile driving during the periods of May 1 to 14 and November 1 to December 31. The enhanced mitigation protocol would be project-specific and developed through "a participatory process that includes scientists, offshore wind developers, and environmental groups" and would be reassessed every two years because right whale distribution is "known to be shifting." Further, these scientists call for the implementation of noise reduction and attenuation technologies throughout the construction period to address potential impacts of noise, which they state is "one of the primary impacts to marine mammals from offshore wind development."

As discussed below, our organizations agree that the IHA measures proposed will reduce the project related noise and help eliminate the potential risk of vessel collision, however, we do not agree with NMFS's statement that: "No serious injury or mortality of North Atlantic right whales would be expected even in the absence of the proposed mitigation measures."²³ To the contrary, the mitigation measures agreed to by Vineyard Wind, and largely incorporated into the Proposed IHA, are critical to ensuring the protection of the North Atlantic right whale during offshore wind construction.

B. The agency's mitigation and monitoring requirements set forth in the proposed IHA closely align with best management practices

We are encouraged that the IHA authorizes no Level A harassment take of North Atlantic right whales and that Vineyard Wind requested none "based on an expectation that any potential exposures above the Level A harassment threshold will be avoided through enhanced mitigation and monitoring measures proposed specifically to minimize potential right whale exposures."²⁴

²² The full Agreement is available at: https://www.clf.org/wp-content/uploads/2019/01/Final_VW-NGO-NARW-Agreement-012219-NGO-fully-executed.pdf.

²³ 84 Fed. Reg. 18,378.

²⁴ *Id.* at 18,371.

i. *Dates and Duration*

Seasonal Restriction: We are pleased that the IHA prohibits pile driving activities from January 1 through April 30th.²⁵ Those dates were chosen because the best scientific data available demonstrates they are the times of highest risk to North Atlantic right whales in the Project area.²⁶

While existing and potential stressors to the North Atlantic right whale must be minimized as far as possible to promote the survival and recovery of the species, it is also incumbent upon the agency to address potential impacts to other endangered and protected whale species, particularly in light of the UMEs declared for right whales, humpback whales and minke whales,²⁷ as well as the several strategic and/or depleted stocks of small cetaceans that inhabit the region.²⁸ To elucidate and balance the relative risks to other whale species, for which we still have relatively limited data, we recommend that NMFS: 1) fund analyses of recently collected sighting and acoustic data for all data-holders; and 2) continue to fund and expand surveys and studies to improve our understanding of distribution and habitat use of marine mammals off Rhode Island and Massachusetts, including the Project area, as well as the broader region, in the very near future. We praise Vineyard Wind and the agency's precautionary measures to protect the North Atlantic right whale for the time-period proposed above (*i.e.*, January 1 to April 30, and enhanced mitigation from November 1- December 31 and May 1- May 14), as based on the best available scientific information.

Temporal restriction/visibility: We are pleased to see temporal restrictions on pile driving, consistent with the Agreement, that require pile driving: (1) "will not be initiated at night, or, when the full extent of all relevant clearance zones cannot be confirmed to be clear of marine mammals, as determined by the lead PSO [Protected Species Observer] on duty;" and (2) may only continue after dark "when the driving of the same pile began during the day when clearance zones were fully visible and must proceed for human safety or installation feasibility reasons."²⁹

²⁵ *Id.* at 18,347, 18,372.

²⁶ Period of highest risk to North Atlantic right whales are defined in the BMPs as: "times of highest relative density of animals during their migration, and times when mother-calf pairs, pregnant females, surface active groups (indicative of breeding or social behavior), or aggregations of three or more whales (indicative of feeding or social behavior) are, or are expected to be, present, as supported by review of the best available science at the time of development."

²⁷ NOAA-NMFS, "North Atlantic right whale Unusual Mortality Event," *supra* note 13; NOAA-NMFS, "2016-2018 Humpback whale Unusual Mortality Event along the Atlantic Coast," *supra* note 14; NOAA-NMFS, "2017-2018 Minke whale Unusual Mortality Event along the Atlantic Coast," *supra* note 14.

²⁸ 84 Fed. Reg. at 17,395.

²⁹ *Id.* at 18,374.

ii. *Noise reduction/attenuation*

Our organizations support, consistent with the Agreement, a 12 dB noise reduction target for pile driving and NMFS's authorization of take based on Vineyard Wind making at least a 6dB reduction in pile driving noise.³⁰

iii. *Clearance Zone distances and monitoring protocol*

Consistent with the Agreement, we support the 1000 m clearance zone for North Atlantic right whales (Table 16) and the extended clearance zone of 10 km for shoulder seasons.³¹ Specifically, between May 1 and May 14, the IHA requires: "An extended clearance zone of 10 km would be established based on real-time PAM [Passive Acoustic Monitoring]. Real-time PAM would begin at least 60 minutes prior to pile driving. In addition, an aerial or vessel-based survey would be conducted across the 10 km extended clearance zone using visual PSOs to monitor for right whales." Further, between November 1 and December 31 the IHA requires: "An extended clearance zone of 10 km . . . based on real-time PAM. Real-time PAM would begin at least 60 minutes prior to pile driving. In addition, an aerial survey may be conducted across the 10 km extended clearance zone using visual PSOs to monitor for right whales."³² Given that right whales are known to use this area in the shoulder seasons, and potentially year round, these measures are critical.

In addition, we support the following monitoring provisions:

- "briefings for construction supervisors and crews, the marine mammal and acoustic monitoring teams, and Vineyard Wind staff prior to the start of all pile driving activity, and when new personnel join the work, in order to explain responsibilities, communication procedures, the marine mammal monitoring protocol, and operational procedures;"³³
- a real-time PAM system designed and established with detection capability extending to 10 km from the pile driving location, acoustic detections that can be classified (i.e., potentially originating from a North Atlantic right whale) within 30 minutes of the original detection, uses a PAM operator trained in identification of mysticete vocalizations, is based on a 75 percent confidence level, and requires acoustic detections be reported to NMFS;³⁴ and

³⁰ *Id.* at 18,371, 18374.

³¹ *Id.* at 18,373.

³² *Id.*

³³ *Id.* at 18,372.

³⁴ *Id.* at 18,373.

- a minimum of two PSOs on duty at all times during pile driving activity and four PSOs stationed at the pile driving site at all times during pile driving activity...³⁵

iv. *Vessel Speed Restrictions*

Dynamic Management Areas: Our organizations were pleased to see a mandatory speed restriction for all project vessels (except for crew transfer vessels) including a requirement to travel at 10 knots (18.5 km/hr) or less during any designated Dynamic Management Area (DMA). Within a designated DMA, even crew transfer vessels must travel at 10 knots or less, unless very specific requirements are met:

North Atlantic right whales are clear of the transit route and WDA [Wind Development Area] for two consecutive days, as confirmed by vessel based surveys conducted during daylight hours and real-time PAM, or, by an aerial survey, conducted once the lead aerial observer determines adequate visibility. If confirmed clear by one of the measures above, vessels transiting within a DMA must employ at least two visual observers to monitor for North Atlantic right whales. If a North Atlantic right whale is observed within or approaching the transit route, vessels must operate at less than 10 knots until clearance of the transit route for two consecutive days is confirmed by the procedures described above.³⁶

Training of visual observers: Consistent with the Agreement, “[a]ll vessels transiting to and from the WDA and traveling over 10 knots would have a visual observer who has undergone marine mammal training stationed on the vessel. Visual observers monitoring the vessel strike avoidance zone may be third-party observers (*i.e.*, PSOs) or crew members, but crew members responsible for these duties must be provided sufficient training to distinguish marine mammals from other phenomena and broadly to identify a marine mammal as a right whale, other whale (defined in this context as sperm whales or baleen whales other than right whales), or other marine mammal.”³⁷

C. *Recommendations to strengthen mitigation and monitoring to align with best management practices to protect North Atlantic right whales*

In addition to the specific measures required and discussed above related to the proposed IHA, the Agreement contained additional measures that should be required in order to strengthen the mitigation and monitoring in this and future IHA’s, consistent with our organizations best

³⁵ *Id.* at 18,374.

³⁶ *Id.* at 18,375.

³⁷ *Id.* at 18,375.

management practices for protecting North Atlantic right whales. Several examples of measures that could enhance the mitigation are provided below:

- i. *Time taken to resume construction activities upon sighting of a North Atlantic right whale from May 1 through May 14*

Consistent with our Agreement, the proposed IHA provides that if, during the May 1-May 14 shoulder period, a right whale is detected by real-time PAM or a vessel-based or aerial surveys within 10 km of the pile driving location, pile driving will be postponed until the following day. However, the proposed IHA allows pile to resume if “a follow-up aerial or vessel-based survey could confirm the extended clearance zone is clear of right whales, as determined by the lead PSO.” As many North Atlantic right whale sightings go undetected, allowing pile driving to resume the same day is too risky.

Although criteria for determining adequate visibility are generally consistent with the Agreement (“Aerial surveys would not begin until the lead PSO on duty determines adequate visibility and at least one hour after sunrise (on days with sun glare). Vessel-based surveys would not begin until the lead PSO on duty determines there is adequate visibility”),³⁸ it is our position that between May 1 and May 14, if adequate visibility cannot be determined by the lead PSO on duty, there are no additional monitoring measures that could clear the area. The Agreement notes that Vineyard Wind has agreed to postpone all activities until the following day.

- ii. *PAM should be required for 60 minutes prior to commencement of pile driving*

We note some discrepancies/confusion regarding the period of time PAM would be used to inform visual monitoring during construction. The proposed IHA states that Vineyard Wind would utilize a PAM system to supplement visual monitoring and that it:

. . . would be monitored by a minimum of one acoustic PSO beginning at least 30 minutes prior to ramp-up of pile driving and at all times during pile driving. Acoustic PSOs would immediately communicate all detections of marine mammals to visual PSOs, including any determination regarding species identification, distance, and bearing and the degree of confidence in the determination. PAM would be used to inform visual monitoring during construction; no mitigation actions would be required on PAM detection alone. The PAM system would not be located on the pile installation vessel.

Thus, where the proposed IHA states on page 18373 that: “Prior to the start of pile driving activity, the clearance zones will be monitored for 60 minutes to ensure that they are clear of the relevant species of marine mammals,” it is unclear whether PAM is only planned for 30 mins of

³⁸ *Id.* at 18,373.

that time. This is less protective than the Agreement which calls for a 60 minute monitoring period during the green and yellow periods. Under the terms of the Agreement, the “Green” period (between May 15 – October 31) requires a comprehensive monitoring / clearance zone protocol and the “Yellow” periods (between November 1 – December 31 and May 1 – 14) require an enhanced mitigation protocol. We are unclear why PAM monitoring during the green period is not explicitly addressed in the proposed IHA until page 18376.

- iii. *PAM should trigger a shutdown when a North Atlantic right whale is acoustically detected*

The proposed IHA also states: “PAM would be used to inform visual monitoring during construction; no mitigation actions would be required on PAM detection alone.”³⁹ We view this as under-protective. Considering the challenges inherent in detecting right whales based on visual observation alone, the Agreement requires shutdown to be triggered upon the acoustic detection of a North Atlantic right whale during the yellow and green periods. The shutdown protocol should be strengthened to include acoustic detections as a shutdown-trigger in the Final IHA, reflecting the terms of the Agreement.

- iv. *From November 1 through May 14, vessels must reduce speed to 10 knots for the remainder of the day upon sighting a North Atlantic right whale*

While we appreciate that the proposed IHA requires all vessels to travel less than 10 knots within the WDA between November 1 and May 14, or implement visual surveys with at least one visual observer to monitor for North Atlantic right whales,⁴⁰ the Agreement required that vessels reduce their speed to 10 knots for the remainder of the day, and to use real-time PAM in order to more accurately detect the presence of right whales. Neither of those requirements appear to be in the proposed IHA and should be included.

- v. *PAM of vessel transits corridors must be implemented from November 1 through May 14 if vessels travel above ten knots*

In addition, the proposed IHA does not require PAM in vessel transit routes which is inconsistent with our Agreement which required its implementation from November 1 through May 14 if travelling at speeds greater than 10 knots (and no DMA).

³⁹ *Id.* at 18,377.

⁴⁰ *Id.* at 18,375.

- vi. *North Atlantic right whale sightings must be reported to NMFS within two hours.*

Finally, the Agreement contained a 2-hour reporting requirement for North Atlantic right whale sightings to NMFS, which is not included in the proposed IHA. This 2-hour reporting requirement should be included in the final IHA. We also note that any entangled right whale should be prioritized and reported as soon as feasible, not to exceed two hours.

III. CONCERNS WITH NMFS'S ANALYSIS AND RENEWAL PROCESS MOVING FORWARD

A. *NMFS's IHA Analysis and the Marine Mammal Protection Act*⁴¹

The MMPA requires that NMFS base its IHA analysis on the best available scientific information.⁴² It is our position that future IHA's should fully consider the following issues.

- i. *NMFS should analyze all data sources when calculating densities of marine mammals, including the North Atlantic right whale*

In determining the proportion of marine mammal species and populations taken by the proposed activities—a calculation that lies at the heart of the agency's "small numbers" analysis—NMFS relies on estimates of marine mammal densities derived from the habitat-based density model for the U.S. East Coast,⁴³ which was funded under the agency's CetMap program⁴⁴ and recently updated with new modeling results.⁴⁵ However, the CetMap model, as its designers admit,⁴⁶ is limited. Most notably, in founding its density estimates entirely on shipboard and aerial line-

⁴¹ In addition to the concerns outlined in Section III, we note two additional concerns. *First*, the best available science on other low- to mid-frequency sources (e.g., Nowacek et al. 2004, Kastelein et al. 2012, 2015) indicates that takes will occur with near certainty at exposure levels well below the 160 dB threshold that NMFS applies to behavioral impacts. *Second*, the agency incorrectly asserts that potential impacts of the planned surveys would likely be minimal as marine mammals would take measures to avoid the sound (i.e., by moving away from the sound source (see, e.g., 84 Fed. Reg. at 18,361: "In addition, marine mammals in the project area are expected to avoid any area that would be ensounded at sound levels high enough for the potential to result in more severe acute behavioral responses, as the offshore environment would allow marine mammals the ability to freely move to other areas without restriction."), even though studies have not found avoidance behavior to be generalizable among species and contexts (e.g., Miller et al. 2009, Pirota et al. 2012) and even though such avoidance may itself constitute take under the MMPA.

⁴² 16 U.S.C. §§ 1362(19), §§ 1362(27).

⁴³ Roberts J.J., et al., "Habitat-based cetacean density models for the U.S. Atlantic and Gulf of Mexico," *Scientific Reports*, vol. 6, p. 22615 (2016); 84 Fed. Reg. 17,399.

⁴⁴ <https://cetsound.noaa.gov/cda-index>.

⁴⁵ In the calculation of take, the agency notes that "[t]he highest seasonal density estimates during the duration of the proposed survey area were used to estimate take (i.e., summer or fall)" but later states that "[f]or both survey segments, species densities... were averaged by season (spring and summer) based on the proposed HRG survey schedule" (84 Fed. Reg. 17,399). We seek clarification from the agency in the issued IHA on the seasons that data were averaged for to estimate take.

⁴⁶ Roberts, J.J., et al., "Habitat-based cetacean density models for the U.S. Atlantic and Gulf of Mexico," *supra* at note 39.

transect surveys, the model necessarily excludes data obtained through additional sightings data, passive acoustic monitoring, and satellite telemetry.⁴⁷ As we have commented in the past, it is our view that the density maps produced by Roberts *et al.* do not fully reflect the abundance, distribution, and density of marine mammals for the U.S. East Coast and therefore should not be the only information source relied upon when estimating take.

NMFS's analysis could overlook the importance that the Project area now represents as foraging habitat for the species. For example, the agency states, "[t]here are no known foraging hotspots, or other ocean bottom structures of significant biological importance to marine mammals present in the project area."⁴⁸ In the specific context of the North Atlantic right whale, the agency notes: "Aerial surveys conducted in and near the project area from 2011-2015 documented a total of six instances of feeding behavior by NARWs (Kraus *et al.* 2016), however the area has not been identified as an important feeding area for right whales."⁴⁹ The agency therefore overlooks recent evidence that the Project area now represents a consistent area of important foraging habitat for the species as a result of recent shifts in the distribution of right whale prey species.⁵⁰ As described above, aggregations of North Atlantic right whales are observed foraging within and in close vicinity to the Project Area as late as May,⁵¹ and at least a proportion of the species is now being observed to use the waters off Rhode Island and Massachusetts throughout the summer months.⁵² This new scientific information indicates that what the agency notes as the North Atlantic right whales "strong seasonality"⁵³ is shifting in the region, and species monitoring efforts indicate that these distribution and temporal shifts in occurrence are being observed throughout much of their range.⁵⁴

⁴⁷ See, e.g., Hodge, K.B., *et al.*, "North Atlantic right whale occurrence near wind energy areas along the mid-Atlantic US coast: implications for management," *supra* note 19; Salisbury, D.P., *et al.*, "Right whale occurrence in the coastal waters of Virginia, U.S.A.: Endangered species presence in a rapidly developing energy market," *supra* note 19; Baird, R.W., *et al.*, "Spatial Use by Cuvier's Beaked Whales and Short-finned Pilot Whales Satellite Tagged off Cape Hatteras, North Carolina: 2017 Annual Progress Report." Prepared for U.S. Fleet Forces Command. Submitted to Naval Facilities Engineering Command Atlantic, Norfolk, Virginia, under Contract No. N62470-15-D-8006, Task Order 50, issued to HDR Inc., Virginia Beach, Virginia (March 2018); Mallette, S.D., *et al.*, "Occurrence of Baleen Whales along the Continental Shelf Region of the VACAPES OPAREA off southern Virginia: Final Report," *supra* note 20.

⁴⁸ 84 Fed. Reg. at 18,631.

⁴⁹ *Id.* at 18,352.

⁵⁰ Leiter, S.M., *et al.*, "North Atlantic right whale *Eubalaena glacialis* occurrence in offshore wind energy areas near Massachusetts and Rhode Island, USA," *supra*.

See, e.g., Quintana, E., "Monthly report No. 3: May 2017," Report prepared for the Massachusetts Clean Energy Center by the New England Aquarium, pp. 26 (May 15, 2017).

⁵² Davis, G.E., *et al.*, "Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (*Eubalaena glacialis*) from 2004 to 2014," *supra*; Kraus, S.D., *et al.*, "Northeast large pelagic survey collaborative aerial and acoustic surveys for large whales and sea turtles. Final Report," *supra*.

⁵³ 84 Fed. Reg. at 18,378.

⁵⁴ Meyer-Gutbrod, E. L., Greene, C. H., & Davies, K. T. (2018). Marine species range shifts necessitate advanced policy planning: the case of the North Atlantic right whale. *Oceanography*, 31(2), 19-23.

As a general matter, and as noted in previous comments, the agency's IHA take analyses need to be updated to reflect the best available scientific information to account for evidence supporting the importance of the waters off Massachusetts and Rhode Island as foraging habitat, and to more accurately reflect times that North Atlantic right whales are likely to be present in the area. We note that Vineyard Wind included additional, more contemporary data sources in the original IHA application that the agency chose not to incorporate into the Proposed IHA.⁵⁵ We recommend that the agency adopt Vineyard Wind's approach to using the best available scientific information and afford the same consideration to other endangered and protected marine mammal species. Integration of opportunistic and other sources of data that collect fine-scale information on factors driving marine mammal distribution with those gathered through systematic broad-scale surveys will serve to better reflect current marine mammal presence, abundance, and density off Rhode Island and Massachusetts.⁵⁶ It should be NMFS' top priority to consider any initial data from State monitoring efforts,⁵⁷ passive acoustic monitoring data, opportunistic marine mammal sightings data, and other data sources, and to take steps now to develop a dataset that more accurately reflects marine mammal presence so that it is in hand for future IHA authorizations and other work.

ii. NMFS should acknowledge the potential for take from vessel collisions and vessel noise

We are comfortable with the IHA's attention to vessel speed restrictions; however, it is our view that vessel collisions should be incorporated into NMFS's take analysis where agreement's like this may not be in place. Vessel collisions are a leading cause of large whale mortality⁵⁸ and have been implicated as one of the major causes of death underlying the UMEs for North Atlantic right whales, humpback whales, and minke whales;⁵⁹ North Atlantic right whales are particularly vulnerable to vessel collisions.⁶⁰ Given the demonstrated vulnerability of large whales to vessel collisions off the east coast, it is remiss of the agency to overlook vessel collisions as a source of potential take.⁶¹ The localized elevation in vessel activity occurring during offshore wind construction naturally increases the vessel collision risk for large whales in

⁵⁵ 84 Fed. Reg. at 18,370: "Vineyard Wind reviewed monitoring data recorded during site characterization surveys in the WDA from 2016–2018 and calculated a daily sighting rate (individuals per day) for each species in each year, then multiplied the maximum sighting rate from the three years by the number of pile driving days under the Maximum Design scenario (i.e., 102 days)."

⁵⁶ See, e.g., Virgili, A., *et al.*, "Combining multiple visual surveys to model the habitat of deep-diving cetaceans at the basin scale." *Global Ecology and Biogeography*, vol. 28, p. 300 (2019).

⁵⁷ See, <http://www.masscec.com/offshore-wind-marine-wildlife-surveys>

⁵⁸ Hayes et al. 2017. North Atlantic Right Whales- Evaluating Their Recovery Challenges in 2018. NOAA Technical Memorandum NMFS-NE-247.

⁵⁹ NOAA-NMFS "2017-2019 North Atlantic Right Whale Unusual Mortality Event," *supra*; NOAA-NMFS, "2016-2019 Humpback whale Unusual Mortality Event along the Atlantic Coast," *supra*; NOAA-NMFS, "2017-2019 Minke whale Unusual Mortality Event along the Atlantic Coast," *supra*.

⁶⁰ NOAA-NMFS, Recovery plan for the North Atlantic right whale (August 2004).

⁶¹ 84 Fed. Reg. at 18346. "Description of Proposed Activity Overview ... Take of marine mammals may occur incidental to the construction of the project due to in water noise exposure resulting from pile driving activities associated with installation of WTG and ESP foundations." No details are provided with regards to vessel collisions.

the area. A collision between a whale and a vessel of any length traveling above of speed of 10 knots has a more than 60 percent probability to result in a lethal strike.⁶²

In addition, some types of anthropogenic noise, such as that produced during offshore wind construction, may displace whales into nearby shipping lanes, increasing the risk of ship-strike at relatively moderate levels of exposure. The agency implies in the Proposed IHA that all potential areas that marine mammals may be displaced to due to disturbance during construction are equally safe: “The availability of alternate areas of similar habitat value for marine mammals to temporarily vacate the project area during the proposed project to avoid exposure to sounds from the activity.”⁶³ Given the presence of shipping lanes and fishing areas in the vicinity of the Project area, the risks posed should be considered.

iii. NMFS should represent increases in species abundance objectively

The agency states in the Proposed IHA: “[b]ased on the best available information, the long-term presence of the WTGs is not expected to have negative impacts on habitats used by marine mammals, and may ultimately have beneficial impacts on those habitats as a result of increased presence of prey species in the project area due to the WTGs acting as artificial reefs (Russell et al., 2014).”⁶⁴ While we agree that these activities may result in a change in the marine community and, in some cases, an increase in the abundance of certain species or in overall diversity, we caution against NMFS representing these changes as “beneficial,” particularly as it is unclear what implications these changes may have on the wider ecosystem. We recommend that the Final IHA and future authorizations remain objective in language used in its impacts analysis (e.g., by using terminology such as “increase,” “decrease,” and “change”).

iv. NMFS should consider the potential cumulative impacts arising from the construction of offshore wind projects

NMFS’ lack of analysis of cumulative impacts in the proposed IHA, which is essential to any negligible impact determination, represents a significant omission. In conducting this analysis, NMFS should define cumulative impacts to encompass: (i) repeated disturbance from the same activity over time and space; (ii) the interactions between different types of potential impacts; (iii) multiple wind energy development projects; and, (iv) the broader context of other ocean uses both within the leasing area and that may be encountered by transboundary and migratory species during their life cycles. The potential impacts of offshore wind development will occur in an already-compromised acoustic and otherwise affected environment. In this context, NMFS must consider the impacts of other activities and events as part of its environmental analysis,

⁶² Conn, P. B., & Silber, G. K. (2013). Vessel speed restrictions reduce risk of collision-related mortality for North Atlantic right whales. *Ecosphere*, 4(4), 1-16.

⁶³ 84 Fed. Reg. at 18,380.

⁶⁴ *Id.* at 18,361.

including, but not limited to, vessel collisions, bycatch and entanglement, and the potential for large-scale seismic exploration for oil and gas.⁶⁵ NMFS must not only consider past and present federal and non-federal actions, but also reasonably foreseeable future federal and non-federal actions.

The agency should expand its analysis and consider repeated exposures to the same stressor. For example, when addressing pile driving noise, the agency states that “nearly all PCoD [Population Consequences of Disturbance] studies and experts agree that infrequent exposures from a single day or less are unlikely to impact individual fitness, let alone lead to population-level effects”⁶⁶ If ideal construction conditions occur, however, pile driving (the duration of which lasts approximately six hours) may take place once, or up to twice, per day throughout the construction period (May through December) and the frequency and duration of the noise produced during construction cannot be described as “very brief.” Moreover, the geographic area that will be exposed to noise levels exceeding the Level A and Level B take thresholds is of a size greater than the distance interval between wind turbines; thus, the same area may be exposed to pile driving noise on multiple days. As such, it is possible that the same individual marine mammal may be exposed to noise on multiple days or may be displaced from a relatively large habitat area for the duration of the pile driving.⁶⁷

A similar case can be made against the agency’s dismissal of any meaningful potential effect on masking or acoustic habitat.⁶⁸ The agency states: “[w]e expect insignificant impacts from masking, and any masking event that could possibly rise to Level B harassment under the MMPA would occur concurrently within the zones of behavioral harassment already estimated for impact pile driving, and which have already been taken into account in the exposure analysis.”⁶⁹ And: “[t]he proposed activities could also affect acoustic habitat (see masking discussion above), but meaningful impacts are unlikely.”⁷⁰ As described above, the noise produced during the construction of the project will occur over a significant portion of the construction window and the agency should acknowledge this is the case (*see also* footnote 41).

⁶⁵ While the issuance of permits for seismic surveys for oil and gas development in the Mid- and South Atlantic is still pending at the time of this letter, several incidental harassment authorizations have already been issued by NMFS under the MMPA and therefore this action should be considered “reasonably foreseeable”. These surveys will result in a serious additional and long-term stressor for North Atlantic right whales throughout much of their range and would interact cumulatively with other stressors, including those potentially arising from offshore wind development.

⁶⁶ 84 Fed. Reg. at 18,378.

⁶⁷ These concerns are supported by European studies of harbor porpoise responses to pile driving. For example, a behavioral response study of harbor porpoise responses to pile driving at the Horns Rev II offshore wind farm in the Danish North Sea demonstrated that harbor porpoises did not fully return to the area in the 16 hours between subsequent pile driving events; consequently, harbor porpoise were displaced from the pile driving site during the entire five months of the construction period.⁶⁷ Displacement into potentially sub-optimal habitat for extended periods may increase the risk of population-level consequences.

⁶⁸ 84 Fed. Reg. at 18,361.

⁶⁹ *Id.*

⁷⁰ *Id.*

Further, NMFS does not consider the potential for acute synergistic effects from multiple activities taking place at one time, or from offshore wind activities in combination with other actions. For example, the agency does not consider the greater susceptibility to vessel strike of animals that have been temporarily harassed or disoriented (*e.g.*, as noted for the North Atlantic right whale in Section II.B. of this letter). Nor does NMFS consider (for example) the synergistic effects of noise with other stressors in producing or magnifying a stress-response.⁷¹

Immediately adjacent to the Vineyard Wind Project to the west are several other offshore wind projects, all moving forward through the regulatory process and expected to be built out.

The cumulative impacts to marine mammals from these offshore wind projects should be factored into the analysis.⁷² Conversely, there may be positive benefits to marine mammals that should be considered when looking at the cumulative impacts of offshore wind.

v. *The new IHA extension process does not comport with the plain language of the statute*

NMFS states that it may issue a “possible one-year renewal” on its IHA for the construction of Vineyard Wind on an expedited basis, with only 15 days allowed for public comment, should various criteria be met.⁷³ NMFS has requested comment on this proposed process.

Although this proposed renewal process appears to be a recent trend in NMFS’ proposed IHAs,⁷⁴ it does not comport with the plain language of the statute. Section 101(a)(D)(i) plainly states that incidental harassment authorizations are valid for periods of not more than one year.⁷⁵ The statute is also clear on the timing of when the agency must publish a proposed authorization (45 days after receipt of an application) and the duration of the public comment period (30 days after publication).⁷⁶ The legislative history of the 1972 Act demonstrates that Congress viewed a robust notice and comment process as central to the agency’s implementation of the IHA

⁷¹ Wright, A.J., Aguilar Soto, N., Baldwin, A.L., Bateson, M., Beale, C.M., Clark, C., Deak, T., Edwards, E.F., Fernández, A., Godinho, A., Hatch, L., Kakuschke, A., Lusseau, D., Martineau, D., Romero, L.M., Weilgart, L., Wintle, B., Notarbartolo di Sciara, G., and Martin, V., “Do marine mammals experience stress related to anthropogenic noise?” *International Journal of Comparative Psychology*, vol. 20, pp. 274-319 (2007); see also other papers published in same volume.

⁷² For further discussion, please see January 22, 2019 ENGO comments on the Vineyard Wind DEIS submitted by to BOEM electronically via www.regulations.gov (Docket ID: BOEM-2018-0069).

⁷³ 84 Fed. Reg. at 18,381.

⁷⁴ Beginning on March 7, 2019, NMFS has issued notice of this new reauthorization process for a multitude of permits. *See, e.g.*, 84 Fed. Reg. 8312 (Mar. 7, 2019); 84 Fed. Reg. 8316 (Mar. 7, 2019); 84 Fed. Reg. 11,508 (Mar. 27, 2019); 84 Fed. Reg. 13,246 (Apr. 4, 2019); 84 Fed. Reg. 14,200 (Apr. 9, 2019); 84 Fed. Reg. 15,598 (Apr. 16, 2019); 84 Fed. Reg. 17,384 (Apr. 25, 2019); 84 Fed. Reg. 17,784 (Apr. 26, 2019); 84 Fed. Reg. 17,788 (Apr. 26, 2019); 84 Fed. Reg. 18,346 (Apr. 30, 2019); 84 Fed. Reg. 18,495 (May 1, 2019); 84 Fed. Reg. 18,801 (May 2, 2019); 84 Fed. Reg. 18,809 (May 2, 2019); 84 Fed. Reg. 20,336 (May 9, 2019).

⁷⁵ 16 U.S.C. § 1371(a)(5)(D)(i).

⁷⁶ *Id.* § 1371(a)(5)(D)(iii).

process. “As approved by the Committee, the [MMPA] involves a number of basic concepts,” one of those concepts being that “the public is invited and encouraged to participate fully in the agency decision-making process.”⁷⁷ When NMFS adheres to this process, “the public is assured of the right to be informed of actions taken or proposed.”⁷⁸

With respect to NMFS’ proposal to allow only a 15-day comment period for an application to extend the IHA by another year, the legislative history of the 1994 Amendments clearly demonstrates Congress intended NMFS to provide a full 30-day comment period in this scenario: “[I]n some instances, a request will be made for an authorization identical to one issued the previous year. In such circumstances, the Committee expects the Secretary to act expeditiously in complying with the notice and comment requirements,” specifically established by the statute.⁷⁹ Notably, NMFS supplies no legal rationale for why it is authorized to issue an identical IHA for a second year while cutting in half the comment period the statute requires. The agency lacks discretionary authority to interpret the statute otherwise, whether by regulation, by policy, or on a permit-by-permit basis as it purports to do here.⁸⁰

Nor has NMFS supplied any explanation for why it might assert that the statutory language of sec. 101(a)(5)(D)(iii) is ambiguous, such that the agency might appropriately exercise its congressionally-delegated gap-filling authority to set forth a permissible interpretation of the statute that comports with the statute’s objectives.⁸¹ Should the agency wish to establish its new IHA renewal process as a reasonable interpretation of an ambiguous statutory provision, it should do so through notice-and-comment rulemaking or comparable process with the appropriate indicia of formality.

In so doing, NMFS must also explain why applicants whose activities may result in the incidental harassment of marine mammals over more than one year should not be required to apply for authorization to do so through the incidental take regulation procedure established by sec. 101(a)(5)(A)(i), which provides for authorizing incidental take during periods of “*not more than* five consecutive years each.”⁸² Where Congress established clear and distinct statutory processes for authorizing incidental take via harassment for one-year periods versus periods extending more than one year and up to five years, NMFS must justify how its proposed

⁷⁷ H.R. Rep. No. 92-707, at 4151 (1972), *reprinted in* 1972 U.S.C.C.A.N. 4144, 4151.

⁷⁸ *Id.* at 4146.

⁷⁹ H.R. Rep. No. 103-439, at 29 (1994).

⁸⁰ *See Chevron, U.S.A., Inc. v. NRDC*, 467 U.S. 837, 842–43 (1984) (“If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress.”).

⁸¹ *See Northpoint Tech. Ltd. v. FCC*, 412 F.3d 145, 151 (D.C. Cir. 2005) (a “‘reasonable’ explanation of how an agency’s interpretation serves the statute’s objectives is the stuff of which a ‘permissible’ construction is made”).

⁸² 16 U.S.C. § 1371(a)(5)(A)(i) (emphasis added). *See also id.* at § 1371(a)(5)(A)(i)(I) (negligible impact finding must evaluate total of such taking “during each five-year (*or less*) period concerned”) (emphasis added).

unlawful hybrid administrative extension process, with a curtailed comment period, is consistent with both statutorily-established processes.

Providing a clear and legally adequate justification for its purported new reauthorization process is especially important in light of the burden the foreshortened comment period places on interested members of the public to review not only the original authorization and supporting documents but also the draft monitoring reports, the renewal request, and the proposed renewed authorization and then to formulate comments, all within 15 calendar days. Especially given that NMFS apparently intends the new reauthorization process to become the rule rather than the exception, it is incumbent on the agency to set forth, via proposed regulation or policy document, its rationale for this new process and to allow public comment.

IV. CONCLUSION

Thank you for considering our comments. Our groups fully support the issuance of an IHA to Vineyard Wind upon inclusion of the measures in Section II C, which the company has already agreed to undertake as per the Agreement, as well as acknowledgement of the concerns raised in Section III. We welcome the opportunity to meet with you, and your staff, at any time to discuss these matters.

Sincerely,

Priscilla Brooks
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Conservation Law Foundation

Francine Kershaw, Ph.D.
Project Scientist, Marine Mammal Protection and Oceans, Nature Program
Natural Resources Defense Council

Catherine Bowes
Program Director, Offshore Wind Energy
National Wildlife Federation

Jane Davenport
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Defenders of Wildlife

Jack Clarke
Director of Public Policy and Government
Mass Audubon

Sharon Young
Field Director, Marine Wildlife
Humane Society of the United States

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Vicki Nichols Goldstein
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September, 19th, 2018

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Administration
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Dear Mr. Bennett and Ms. Wieting,

We respectfully submit this letter presenting recommendations for adequate and effective mitigation of impacts to the North Atlantic right whale during offshore wind development and operations. These recommendations are based on our expertise as marine scientists working on North Atlantic right whales and marine mammal acoustics.

The most effective means of protecting North Atlantic right whales from injury and harassment from noise generated during the offshore wind construction phase is to implement a temporary prohibition on pile driving during periods of heightened vulnerability. Periods of heightened vulnerability are defined by the following criteria: (i) phases when a higher relative density of animals is present, or expected to be present, within the project site; and (ii) phases when mother-calf pairs, pregnant females, aggregations of three or more whales (including surface active groups; indicative of feeding or social behavior), or entangled animals, are, or are expected to be, present.

In line with the best available science on North Atlantic right whale distribution and abundance in the waters off Rhode Island and Massachusetts, we recommend the following seasonal prohibition on pile driving and, if development activities absolutely cannot be avoided, the implementation of an enhanced mitigation protocol during the following times for leases within the Rhode Island/Massachusetts and Massachusetts Wind Energy Areas:

- January 1st – April 30th: Prohibition on pile driving.
- May 1st – 14th and November 1st – December 31st: Enhanced mitigation protocol in place during pile-driving.

Temporary prohibitions should also be defined for all lease areas along the Atlantic coast based on the best data available for those regions. The enhanced mitigation protocol should be developed for individual offshore wind projects via a participatory process that includes scientists, offshore wind developers, and environmental groups. As North Atlantic right whale distribution is known to be shifting, we recommend the dates of these restrictions and the enhanced mitigation protocol be reassessed every two years by an independent advisory group based on the best scientific and commercial data available.

Noise reduction and attenuation technologies should also be required throughout the entire construction period to the maximum extent practicable, thereby directly addressing one of the primary impacts to marine mammals from offshore wind development.

The probability of serious injury or mortality of North Atlantic right whales significantly increases when vessels of any length are traveling at speeds greater than ten knots. Vessel-based right whale monitoring measures must be employed by the offshore wind industry, including the staffing of at least one PSO aboard industry vessels and the real-time acoustic monitoring of major vessel routes (*e.g.*, using fixed location hydrophones with real-time reporting to transiting vessels). In addition, all vessels operating within or transiting to/from lease areas are strongly urged to observe a speed restriction of ten knots during periods of time involving the confirmed presence of North Atlantic right whales or the expected presence of mother-calf pairs, pregnant females, and aggregations of three or more whales, based on best available science. A compulsory vessel speed restriction of ten knots must be required of industry vessels within any Dynamic Management Areas established by NOAA Fisheries.

We also encourage your agencies to incentivize the use of alternative vessel types by the offshore wind industry that would significantly reduce the risk to North Atlantic right whales (*e.g.*, hovercraft); the use of these vessels would significantly reduce the number of vessel speed mitigation measures presently required of the industry. Similarly, significant resources should be directed towards the research, development, and implementation of improved noise reduction and attenuation technologies for deployment during construction.

Thank you in advance for your consideration of our comments. We would be happy to meet with you or your staff to discuss our recommendations in more detail.

Sincerely,

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May 28, 2019

Jolie Harrison, Chief
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1315 East-West Highway
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Dear Ms. Harrison,

The Atlantic Offshore Lobstermen's Association provides the following comments regarding the Federal Register notice titled "Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Construction of the Vineyard Wind Offshore Wind Project". Our comments focus on impacts to North Atlantic right whales (NARW), since they are a species of particular conservation concern, one of three whale species in the area suffering from an unusual mortality event and, as noted in the document, *"the potential impacts of the proposed project on right whales warrant particular attention"*. However, many of these concerns are broadly applicable.

Our first concern is with the data used to describe NARW presence in the wind energy lease area (WEA). The aerial and acoustic survey data cited do not include years after 2015, yet recent years are key to understanding shifting distribution patterns. Further, NOAA's Atlantic Large Whale Take Reduction Team has identified concerns with utilizing the Roberts et al. whale habitat model, designed for a specific type of survey data relevant to Navy operations in the Mid-Atlantic, as best available data for NARW habitat use across a broad scale. The cited version of the model only includes data through 2015/2016 and data from many southern New England NARW surveys are excluded, including opportunistic visual surveys, surveys that directed effort toward whales, and acoustic surveys.

Based on these data sources, the Agency concludes that NARW presence in the WEA is seasonal and consistent annually, in the period of December – April (2011-2015 aerial survey data) or November – July (2004-2014 acoustic data) and Vineyard Wind's proposed construction window of April – December (pile driving on up to 102 days) will sufficiently mitigate NARW interactions. Yet, from 2016-2019, NOAA has repeatedly instituted NARW Dynamic Management Areas (DMAs) based on sightings in months identified for construction in waters that overlap the MA/RI WEA¹, including as recently as April 2019. There is also a Seasonal Management Area for migrating right whales just west of the WEA from November through April annually. We ask that you consider recent survey data, which is readily available to NOAA, and any pre-construction data being collected in your analysis of marine mammal risk. Relying on models and dated information is insufficient.

Our second concern is that the Agency proposes to issue an Incidental Harassment Authorization (IHA) for only the construction phase of the Vineyard Wind operation. We feel strongly that any take authorization should consider the entire life cycle of the wind turbine generators (WTGs) and all aspects of

¹ Cole, T and Crowe L. April 2019 "An Analysis of Dynamic Management Areas, January 2010-March 2019, in support of the US Take Reduction Team." <https://www.nefsc.noaa.gov/rcb/interactive-monthly-dma-analyses/>

take/harassment (i.e. acoustics, vessel strikes, habitat changes, etc.) applicable to those phases. Once the construction is finished is not the time to consider marine mammal impacts related to operating and,

eventually, decommissioning the WTGs. While cumulative impacts of the WTGs may be detailed in the final Environmental Impact Statement, they should be part of this permitting process as well.

Our third concern is about shifts in the ecosystem created by industrial scale installation of WTGs. We take issue with the Agency's analysis that "[b]ased on the best available information, the long-term presence of the WTGs is not expected to have negative impacts on habitats used by marine mammals...There are no known foraging hotspots, or other ocean bottom structures of significant biological importance to marine mammals present in the project area." Again, looking to recent data is important, as there have been consistent zooplankton (*Calanus finmarchicus*) spring blooms in this area in the last 5-10 years. As such, NARWs and other species are occupying the waters of the RI/MA WEA longer and more consistently to forage, while avoiding areas of the eastern Gulf of Maine and Bay of Fundy that were previously important feeding grounds.

Bio-oceanographic models looking at changing climate patterns correctly predicted *Calanus* abundance south of Cape Cod in 2009 and successfully forecasted right whale feeding behavior in the area in future years² indicating that this is an ecosystem shift, the time of which aligns with the observed population decline in NARW. While the IHA document does briefly describe prey impacts as part of the habitat analysis, the focus is limited to fish species. Further analysis is needed to describe the impacts on zooplankton as a food source and to consider the literature describing the effects of long-term presence of WTG on physical oceanography, particularly related to changes in upwelling patterns. As noted in the document, if the proposed project "...displaces marine mammals from an important feeding or breeding area for a prolonged period, impacts on individuals and populations could be significant."

The whale take model presented in the IHA document, using dated data and assessing only acoustic harassment risk, predicts one NARW exposure above the Level A harassment threshold during construction. While this is admittedly a small number, the current PBR for right whales is 0.9. Just one incident that rises to the level of significant injury will exceed the U.S. annual limit for human caused takes. For this reason, we feel that the Vineyard Wind mitigation strategy should be further scrutinized before the Agency declares it sufficient to eliminate all risk above Level B harassment. The fishing industry was recently held to a very high standard of risk reduction based on a paucity of data linking takes to U.S. lobster fishing; it is only fair that the government and eNGOs hold wind energy companies to the same high standards of NARW protection.

With that in mind, we have the following concerns with the mitigation strategy:

1. The passive acoustic monitoring (PAM) system, described as a near real-time census of whale vocalizations in a 10km area, hasn't yet been developed and will only be "used to inform visual monitoring during construction; no mitigation actions would be required on PAM detection alone". Near real-time acoustic arrays currently deployed are designed and operated by experts in the whale research community. Will the IHA permit be contingent on vetting the design and operation of the currently hypothetical system by experts in the field?
2. While we appreciate NOAA's requirement that protected species observers (PSO) be independent contractors, we are worried that requisite data collection need only be submitted to NOAA at the end of the permit period, when it will be too late to respond to unauthorized levels of harassment. Since this is an emerging industry, stringent oversight is needed and, where applicable, should be based on best practices used internationally. We suggest NOAA or BOEM create a third-party PSO

² Runge, J. and Record, N. March 2018. Informational webinar given to ALWTRT. Related: Record, N.R. et al. 2019. "Rapid Climate-Driven Circulation Changes Threaten Conservation of Endangered North Atlantic Right Whales." *Oceanography*: June 2019. <https://doi.org/10.5670/oceanog.2019.201>

certification program, like the system used for fishery observers, which sets universal standards for all wind projects and requires reporting after each construction activity/trip.

3. While we certainly understand the need to ensure operational safety and practicality when setting regulations, we can't help but feel this industrial scale construction project is being held to a less stringent standard than the fishing industry. Namely,

“Vineyard Wind has proposed that, when called for by a PSO, shutdown of pile driving would be implemented when feasible, but that shutdown would not always be technically practicable once driving of a pile has commenced as it has the potential to result in pile instability. We therefore propose that shutdown would be implemented when feasible, with a focus on other proposed mitigation measures as the primary means of minimizing potential impacts on marine mammals from noise related to pile driving.”

All pile driving activity should cease when right whales are observed within 5 miles. At the very least, all shutdowns called for by a PSO should be reported to NOAA daily with detailed explanation when shutdowns were not deemed feasible. Further mitigation must be immediately required if the Agency finds continued pile driving to cause unauthorized risk to marine mammals.

4. Finally, related to vessel strike avoidance mitigation, we strongly urge NOAA to institute a mandatory 10 knot speed restriction on all vessels in all leased areas of the RI/MA WEA when right whales are present. For the last month, NARWs have been consistently sighted in the shipping lane just south of the WEA, triggering DMAs and voluntary speed restrictions³. We find the voluntary nature of these restrictions to be grossly inadequate. If NOAA is serious about protecting endangered species, mandatory limits need to be established as standard operating practice for this emerging industry.

In closing, many Atlantic Offshore Lobstermen's Association members support the transition to renewable energy and understand that it is a needed approach to protect our oceans from climate change, but given that this is the first industrial scale wind energy installation, NOAA, BOEM, and the public need to establish responsible standards and regulations that properly weigh impacts. It is our hope that the IHA not be issued until the final EIS is approved and Section 7 ESA consultation for the four Endangered Species are complete.

Thank you for the opportunity to comment,



Heidi Henninger
Scientific Manager

CC: Michael Pentony, NOAA NMFS GARFO
Robert Beal, ASMFC
Beth Casoni, MA Lobstermen's Assn.
Patrice McCarron, ME Lobstermen's Assn.

³ <https://www.nefsc.noaa.gov/psb/surveys/MapperiframeWithText.html>

May 28, 2019

By U.S. Mail and NOAA Web Portal

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*Re: Comments On and Objections To Proposed Incidental Harassment Authorization
for Vineyard Wind Project*

Dear Ms. Harrison:

This firm represents “ACK Residents Against Turbines,” a community group consisting of Nantucket residents and property owners who oppose the Vineyard Wind Offshore Wind Energy Project (the “Project”) proposed by Vineyard Wind LLC.¹ We have reviewed the proposed Incidental Harassment Authorization (“Harassment Permit”) that the National Oceanic and Atmospheric Administration (NOAA) and the National Marine Fisheries Service (NMFS) intend to issue for the Project. We provide the following comments for your consideration.

As an initial matter, the analysis that accompanies the proposed Harassment Permit reflects the mind-set of an agency that has been “captured” by the very industry it is supposed to be regulating. The hard facts of the matter – which are quite difficult to locate in the analysis prepared by NMFS – is that NOAA and NMFS intend to grant Vineyard Wind permission to harass and, if necessary, physically harm 15 species of marine mammals native to the waters off the coast of Massachusetts, including the federally-listed North Atlantic Right Whale (NARW), whose numbers have dropped precipitously in the last two years. Meanwhile, NOAA and NMFS continue to impose stricter, more rigid controls on fisherman in this same area on grounds that such controls are necessary to protect the NARW. There is no way to cover this up or cosmeticize it. NOAA and NMFS are privileging one economic activity over another, and the NARW will continue to be threatened and pushed ever-closer to extinction, all for the sake of a wind energy project that will only encourage

¹ The members of ACK Residents Against Turbines will be able to view the proposed wind farm from public and private vantage points on Nantucket island. In addition, the members routinely travel on, through, and over the coastal waters that would be affected by the proposed Project, including waters that support marine mammals and turtles. Members also fish these same waters. In addition, ACK Residents Against Turbines and its individual members have an interest in ensuring that the cultural and historic heritage of this part of New England is preserved and protected.

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more growth and consumption and will, in the end, do nothing to reverse climate change. If this is the policy choice that NOAA and NMFS have made, the agencies should at least be candid enough to disclose this fact, so that the public can evaluate the proposed Harassment Permit in its proper context and with a full understanding of the federal government's position.

The problems with NMFS's analysis, however, go deeper than just a poorly-disguised policy preference for the Vineyard Wind project. Specifically, the analysis: (1) does not address the *operational* impacts of the Project on marine mammals, including NARW; (2) does not address the *cumulative* impacts of the Project when considered in conjunction with other threats to marine mammals, including those posed by the other proposed wind farms adjacent to the Vineyard Wind leasehold; (3) does not address vessel strikes beyond a cursory mention of them, even though such strikes are a leading cause of mortality among NARW and other marine mammals; and (4) places too much faith in Vineyard Wind's ability to effectively implement the few protections afforded the marine mammals that would be affected by the proposed Harassment Permit. We address each of these deficiencies in kind.

1. No Analysis of Operational Impacts on Marine Mammals

The analysis for the Harassment Permit focuses solely on the Project's *construction-related* impacts on marine mammals (e.g., noise effects from pile-driving). It fails completely to evaluate the extent to which the *operation* of the Project could affect the species in question. For example, the wind turbines, when operational, generate noise that is transmitted underwater and can be heard by marine mammals in the area, including NARW. A 2013 study conducted for the Scottish Government, titled "Modelling of Noise Effects of Operational Wind Turbines Including Noise Transmission Through Various Foundation Types," concluded that wind turbines, especially those that use monopile foundations such as those proposed by Vineyard Wind, produce noise that can be detected by whales at distances reaching 18 kilometers.² Such noise impacts can and do alter whale behavior, leading to potential displacement of the whales from their preferred habitat. By failing to evaluate (or even mention) this potential impact of the Project, NOAA and NMFS have violated the Marine Mammal Protection Act and the Endangered Species Act.

Other operational impacts on marine mammals include vessel strikes during routine maintenance activities and oil spills from the hundreds of gallons of petroleum maintained within each wind turbine. These impacts, like operational noise from the turbines themselves, were omitted from the analysis conducted by NMFS. In addition, the analysis for the Harassment Permit completely ignores the potential for the Project's 100 wind turbines to disrupt echolocation by and among

² Marmo, B., Roberts, I., Buckingham, M.P., King, S., Booth, C. 2013. "Modelling of Noise Effects of Operational Offshore Wind Turbines Including Noise Transmission Through Various Foundational Types". Edinburgh: Scottish Government.

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marine mammals, especially NARWs. It is likely that the hard structures of the turbines, which will run the entire depth of the water column, will deflect the clicks and other sounds of marine mammals, thereby degrading the animals' ability to navigate and communicate. This topic should have been addressed in the NMFSs report, but was not.

2. No Analysis of Cumulative Impacts on Marine Mammals

Another major shortcoming of the Harassment Permit analysis is that it does not assess *cumulative* impacts on the affected marine mammals. Instead, it treats the Project as if it were to be installed and operated in a vacuum, where no other impacts exists. For example, the analysis does not provide data on the existing underwater noise conditions in the project area, so there is no way to tell whether the current, ambient sound environment at and near the Project site is already so saturated with noise that whales and other marine mammals are struggling to maintain basic behaviors fundamental to their respective life histories. This information is critical to any assessment of the Project's contribution to this noise environment. If the project area currently experiences noise levels at which that marine mammals already experience difficulty in detecting threats, communicating, navigating, and performing other behaviors, then any additional noise emitted from the Project is likely to worsen the situation, perhaps to a dangerous degree. And one must remember that some of the affected species – and, again, the one of greatest concern is the NARW – have shown sharp declines in just the last 18 to 24 months. Thus, the concern is not theoretical; it is real and it is acute and immediate. Unfortunately, however, the NMFS analysis does not address this important issue or even acknowledge it as a threat.

The NMFS analysis likewise provides no information on the number of vessels that currently travel in and near the project area. As a result, neither NMFS nor the public has any idea how significant the current vessel-strike risk might be or how much that risk would be intensified by the Project. The data set forth in the NMFS report is simply insufficient to address this issue.

Then there is the matter of the other wind farms which are slated to be installed immediately adjacent to the proposed Project. As we explained in our NEPA comments to the Bureau of Oceanic Energy Management (BOEM), the key to conducting a proper cumulative analysis is making sure it considers all projects with a potential to contribute to the impact in question. The NMFS report, like Vineyard Wind DEIS, fails this fundamental test, as it does not account for impacts from the other two wind projects that are likely to go in next door to it – Bay State Wind and Deepwater Wind; nor does it consider the effects of the other wind farm lease (recently awarded to Vineyard Wind) that would be installed to the immediate southeast of the Project site. These wind farms, when combined with the proposed Project, take up hundreds of square miles of ocean and have the potential to cause significant impacts on marine mammals. Again, however, the NMFS report on the proposed Harassment Permit does not discuss the cumulative impacts of these projects (including the proposed Project), resulting in a gross underreporting of

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the actual threats to NARW and other marine mammals that live in and/or migrate through this part of the Atlantic ocean. What is especially distressing is that these other wind farms will soon be requesting their own Harassment Permits from NOAA/NMFS; and NOAA/NMFS will again act as if each permit request is singular and insulated from every other, and does not create cumulative impacts. This defies logic and undermines our ability to properly manage the nation's biological resources.

3. Inadequate Analysis of Vessel Strikes

The NMFS report fixates almost exclusively on one impact: noise from pile-driving and other activities associated with installing the 100 wind turbines. Missing from this analysis, however, is perhaps the most serious threat to NARW and other marine mammals – namely, vessel strikes or collisions. Rather than take a hard look at this issue and determine the actual magnitude of this particular impact and its ability to result in both Type A and Type B harassment, the NMFS report largely ignores it, stating in cursory fashion that the mitigation measures that Vineyard Wind has agreed to implement will take care of the problem. The following paragraph is representative:

Existing vessel traffic in the vicinity of the project area south of Massachusetts is relatively high; therefore, marine mammals in the area are presumably habituated to vessel noise. In addition, construction vessels would be stationary on site for significant periods of time and the large vessels would travel to and from the site at relatively low speeds. Project-related vessels would be required to adhere to several mitigation measures designed to reduce the potential for marine mammals to be struck by vessels associated with the project; these measures are described further below (see *Proposed Mitigation Measures*.) (NMFS, Harassment Permit Analysis, p. 5.)

Let us deconstruct this paragraph to learn what it is really saying.

The first sentence claims that because existing vessel traffic in the project vicinity is “relatively high”, the marine mammals in the area would be “habituated to vessel noise.” This statement raises at least three red flags. First, it concedes that the project area already experiences high levels of vessel traffic, though, again, we are not informed what these levels are. This suggests that marine mammals are currently at substantial risk of vessel strikes and will become more so once the Project's vessels are added into the mix. This risk increases still further when one considers the high likelihood that the Project – including its vessels – will cause marine mammals to alter their normal travel patterns, potentially bringing them into conflict with vessels they would have otherwise avoided.

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Second, the statement also suggest that vessel noise already has a profound effect on the ambient underwater sound environment. The report does not provide any measurements or other data on this point, but the implication is obvious. For this reason, the report should provide a more thorough *and quantitative* assessment of cumulative vessel noise and the Project's contribution to it.

Third, the sentence, by stating that the marine mammals in the project area are habituated to vessel noise, implies that noise from the Project's vessels will do no harm, as it would be within the animals' existing and expected norms. While this may or may not be true, it suggests that these same marine mammals will not be able to quickly distinguish close or approaching vessels from others in the general vicinity of the Project. This, in turn, would make the animals slower to evade the vessel(s) in question, thereby increasing the risk of collisions. This potential impact, however, is never addressed.

The next sentence of the quoted paragraph states that "the large vessels would travel to and from the site at relatively low speeds," again suggesting that such vessels pose no collision threat to whales and other marine mammals. But notice that the statement only relates to "large" vessels and doesn't define "relatively low speeds." We learned from the Draft EIS, however, that many of the project's vessels will travel at speeds in excess of 10 knots per hour, i.e., the speed at which marine mammals are placed at risk of collision. Thus, the quoted sentence appears in conflict with statements in the EIS.

The last sentence of the paragraph then explains that the project's potential to cause vessel collisions with marine mammals will be reduced by several mitigation measures set forth later in the NMFS report. These mitigation measures, while appearing to limit vessel speeds to 10 knots per hour, actually provide numerous exceptions to that restriction, provided the vessel in question employs a qualified observer to look out for whales and other marine mammals that might lie in the path of the boat. There is no evidence that such observers are able to detect marine mammals, especially those well below the water's surface, in time to avoid collisions. So the mitigation measures are unproven and largely unenforceable. Worse, it appears that NMFS, in calculating the amount of take for the project, omitted any take from vessel strikes. Thus, NMFS is assuming that the mitigation to prevent vessel strikes will be 100 percent effective, and there is no data to back up that assumption.

4. Inadequate and Unenforceable Mitigation Measures

In recent years, wind energy companies have persuaded state and federal regulators that wind farm operators are capable of self-monitoring, self-reporting, and self-policing when it comes to environmental mitigation measures. As a result, most of the state and federal agencies that regulate wind energy projects place most if not all responsibility for environmental mitigation in the hands

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of the operators themselves, with very little government oversight. This has not always worked out well for the animals affected by the wind turbines. For example, a recent lawsuit in Ohio revealed that a wind energy plant owned by Avangrid (formerly Iberdrola), the parent company of Vineyard Wind, had killed thousands of birds. Yet Avangrid fought to keep this information from becoming public. (See *Blue Creek Wind Farm, LLC v. Ohio Department of Natural Resources* (2016) 16 CV 004414.)

With regard to mitigating the impacts of the Vineyard Wind project, NMFS has imposed seasonal restrictions on pile driving. Specifically, no pile driving may occur between January 1 and April 30, as this is the period during the year when the highest densities of NARWs is expected. This restrictive period, however, is far too short, especially since, according to Table 9 in the report (Monthly Marine Mammal Densities), NARW densities are higher in May, June, and December than they are in January. Further, we know, and NMFS admits, that NARWs reside in this area all year-round. So the January-through-April pile driving restriction will in not prevent take of NARWs during the other times of year.

In addition to the January-through-April restriction, NMFS also proposes “clearance zones” for NARWs and other mammals as a means of addressing pile driving noise impacts once the restriction period terminates (i.e., May 1). Specifically, if a marine mammal is observed approaching or entering a designated clearance zone, pile driving may not commence until the animal leaves or until 30 minutes have elapsed without redetection of the animal. This sounds reasonable, except that it only applies to the *start* of pile driving. It does not apply to marine mammals that may enter the clearance zones *after* pile driving has commenced. If this happens – and it most assuredly will – Vineyard Wind is not required to halt pile driving. So long as Vineyard believes that a shutdown is not “technically feasible”, it doesn’t need to stop. In this situation, no protection is afforded the animal in question.

Conclusion

For the foregoing reasons, the analysis prepared by NMFS for the proposed Harassment Permit is insufficient. We recommend that NMFS delay issuance of the Harassment Permit until the concerns described herein are addressed.

Thank you for your consideration of these comments.

Very truly yours,



David P. Hubbard

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Gatzke Dillon & Ballance LLP

DPH/rlf

cc: Vallorie Oliver, ACK Residents Against Turbines

Lauren Sinatra, Town of Nantucket

Edward Barrett, President, Massachusetts Fisherman's Partnership



MARINE MAMMAL COMMISSION

3 June 2019

Ms. Jolie Harrison, Chief
Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225

Dear Ms. Harrison:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the application submitted by Vineyard Wind, LLC (Vineyard Wind), seeking authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act (the MMPA) to take small numbers of marine mammals by harassment. The taking would be incidental to construction of commercial wind energy turbines and associated facilities off Massachusetts beginning in August 2020. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 30 April 2019 notice (84 Fed. Reg. 18346) announcing receipt of the application and proposing to issue the authorization, subject to certain conditions.

Background

Vineyard Wind proposes to construct an 800 megawatt offshore wind farm approximately 23 km southeast of Martha's Vineyard. The proposed wind farm would consist of up to 100 wind turbine generators (WTGs) and one or more electrical service platforms (ESPs). Two foundation types are proposed for installation of the WTGs and ESPs—monopiles and jacket piles. The monopile foundations would consist of a single steel pipe pile with a maximum diameter of up to 10.3 m. The jacket foundations would include three or four steel jacket piles approximately 3 m in diameter. Vineyard Wind considered two installation scenarios: (1) the "maximum" design would install 90 monopiles and 12 jacket-type foundations and (2) the "most likely" design would install 100 monopiles and 2 jacket-type foundations. A maximum of two monopiles or one jacket-type foundation would be installed per day using an impact hammer. A vibratory hammer also may be used to seat piles prior to impact driving. Pile driving could occur on up to 102 days.

NMFS preliminarily has determined that the proposed activities could cause Level A and B harassment of small numbers of 15 species of marine mammals, but that the total taking would have a negligible impact on the species or stocks. NMFS does not anticipate any lethal take of marine mammals. NMFS believes that the potential for take by Level A and B harassment would be at the least practicable level because of the proposed mitigation measures. The proposed mitigation, monitoring, and reporting measures include—

- prohibiting pile driving activities from 1 January through 30 April to protect North Atlantic right whales;
- using a sound attenuation device (i.e., a bubble curtain, noise abatement system, etc.) during impact pile driving and implementing measures regarding performance standards if a bubble curtain is used;
- conducting in-situ sound source and sound propagation measurements during installation of the largest diameter monopile, with and without noise attenuation, and during installation of the largest jacket pile;
- using sound measurements to adjust, as necessary, the Level A and B harassment zones¹ for the two pile types;
- using soft-start, delay, and shut-down procedures;
- using protected species observers to monitor the Level A and B harassment zones for 60 minutes before, during, and for 30 minutes after pile driving;
- using real-time passive acoustic monitoring (PAM) for at least 60 minutes prior to pile driving to monitor for North Atlantic right whales in an extended clearance zone of 10 km from 1 May to 14 May, which also must be monitored using an aerial or vessel-based survey, and from 1 November to 31 December;
- delaying resumption of pile driving after detection of a right whale until the following day or until a follow-up aerial or vessel survey confirms that all right whales have left the extended clearance zone;
- using standard vessel strike avoidance procedures during all pile-driving activities;
- reporting injured and dead marine mammals to the NMFS Office of Protected Resources and the New England Stranding Network Coordinator using NMFS's phased reporting approach and suspending activities, if appropriate; and
- submitting a final report to NMFS.

Incidental takes associated with vibratory pile driving

Vineyard Wind estimated Level B harassment takes associated with impact pile driving, but indicated that sound levels associated with vibratory pile driving would not be of concern due to its reduced sound levels, as compared to impact pile driving, and short duration of use. Therefore, Vineyard Wind did not request, and NMFS did not propose, to authorize taking associated with that activity. Although the source levels during vibratory impact driving are lower than during impact driving, the Level B harassment threshold for vibratory pile driving is much lower at 120 rather than 160 dB re 1 μ Pa. Thus, taking associated with vibratory pile driving cannot be, and historically has not been, discounted by NMFS. For other projects involving sound sources that would be used for short durations (including for only 30 or 45 minutes), applicants have requested, and NMFS has proposed to authorize, marine mammal takes². Moreover, those sound sources also emit sound at much lower source levels than would occur during vibratory installation of 3- or 10.3-m piles. For these reasons, the Commission recommends that NMFS (1) authorize takes of the various marine mammal species that could occur during vibratory pile driving and (2) require Vineyard Wind to

¹ PSO also would monitor the various clearance zones: 1,000 m for North Atlantic right whales, 500 m for all other mysticetes, 120 m for harbor porpoises, and 50 m for all other marine mammals.

² See for example 84 Fed. Reg. 23032, 84 Fed. Reg. 12356.

conduct and report sound source and sound propagation measurements during vibratory pile driving and adjust the Level A and B harassment zones, as needed.

Level A and B harassment zones and takes

Level A harassment zones—As the Commission has indicated in previous letters, it supports NMFS’s use of the updated permanent threshold shift (PTS) thresholds and associated weighting functions to estimate the Level A harassment zones. However, there are some shortcomings that need to be addressed regarding the methodology for determining the extent of the Level A harassment zones based on the associated PTS cumulative SEL (SEL_{cum}) thresholds for the various types of sound sources, including stationary sound sources. For determining the range to the SEL_{cum} thresholds, NMFS uses a baseline accumulation period of 24 hours unless an activity would occur for less time (e.g., 8 hours). The Commission supports that approach *if* an action proponent is able to conduct more sophisticated sound propagation and animal modeling. However, that approach is less than ideal for action proponents that either are unable, or choose not, to conduct more sophisticated modeling.

As an example, the Level A harassment zone for low-frequency cetaceans was estimated to be greater than the Level B harassment zone during impact driving of the jacket piles (7,253 vs. 4,121 m, respectively)³. Based on the extent of those zones, it is assumed that an animal would experience PTS before responding behaviorally and leaving or avoiding the area. That notion runs counter to the logic that permanent and temporary physiological effects are expected to occur closest to the sound source, with behavioral responses triggered at lower received levels, and thus at farther distances. Specifically, the Level A and B harassment zones do not make sense biologically or acoustically due to NMFS’s unrealistic assumption that the animals remain stationary throughout the entire day of the activity.⁴ By assuming a stationary receiver, all of the energy emitted during a 24-hour period is accumulated for the SEL_{cum} thresholds.

The Commission continues to believe that NMFS should consult with scientists and acousticians to determine the appropriate accumulation time that action proponents should use to determine the extent of the Level A harassment zones based on the associated SEL_{cum} thresholds in such situations. Those zones should incorporate more than a few hammer strikes (or acoustic pulses) but less than an entire workday’s worth of strikes (or pulses). This recommendation is the same as that made in the Commission’s [11 July 2017 letter](#) on NMFS’s final Technical Guidance and numerous previous letters. Other federal partners, including the Navy, have made similar recommendations. Since the Commission and other federal partners have determined that this issue needs resolution, the Commission recommends that NMFS make this issue a *priority* to resolve in the near future. The Commission understands that NMFS formed an internal committee to address this issue but believes that external expertise also is needed to resolve it. Therefore, the Commission again recommends that NMFS consult with external scientists and acousticians to determine the appropriate accumulation time that action proponents should use to determine the extent of the Level A harassment zones based on the associated SEL_{cum} thresholds for the various types of sound

³ The Level A harassment zone also is greater than the Level B harassment zone for low-frequency cetaceans.

⁴ Which generally has been more of an issue for stationary sound sources. However, this also could be an issue for moving sound sources that have short distances between transect lines, in which the user spreadsheet may not be appropriate for use unless the source level could be adjusted accordingly.

sources, including stationary sound sources. Estimated swimming speeds of various species and behavior patterns (including residency patterns)⁵ should be considered. More specifically, animat modeling that considers various scenarios should be used to address this issue. This is especially important for ensuring that NMFS's assumptions regarding the appropriate accumulation time conform to real-world scenarios.

Appropriateness of the Level A harassment takes—A complicating factor for Vineyard Wind's proposed activities is that the Level A harassment zones appear to have been estimated based on the maximum amount of time pile driving would occur on a given day (i.e., 6 hours for installation of two monopiles). However, the Level A harassment takes were estimated based on animat modeling rather than static assumptions⁶. That is, the Level A harassment zones discussed in the previous section do not comport with the proposed numbers of Level A harassment takes.

As previously noted, the Level A harassment zone for jacket piles exceeds the Level B harassment zone for low-frequency cetaceans. For impact driving of monopiles, the Level A harassment zone is 3,191 m for low-frequency cetaceans, which equates to more than 77 percent of the extent of the 4,121-m Level B harassment zone. However, NMFS proposed to authorize only 4 Level A harassment and 33 Level B harassment takes for fin whales and 10 Level A harassment and 56 Level B harassment takes for humpback whales. Those proposed Level A harassment takes are less than 15 percent of the total takes to be authorized, which is illogical based on the extent of the Level A harassment zone⁷ relative to the Level B harassment zone. Consistent with other authorizations, Vineyard Wind would be required to report the numbers of marine mammals taken and the types of taking based on the extents of the Level A and B harassment zones (see section 5(b)(vii)(15) in the proposed authorization), which do not consider the amount of time spent in the Level A harassment zone but which informed the animat modeling. Thus, Vineyard Wind could easily exceed the numbers of Level A harassment takes to be authorized for low-frequency cetaceans during the pile-driving activities. The Commission recommends that NMFS reassess the numbers of Level A harassment takes for all low-frequency cetaceans and authorize an appropriate number of takes relative to the extents of the Level A and B harassment zones—the Level A harassment takes should account for 77 percent of the total takes for installation of monopiles and 100 percent of the total takes for jacket piles.

Appropriateness of the Level B harassment takes—Previous monitoring efforts for geophysical and geotechnical surveys have occurred in the waters of Rhode Island, near Vineyard Wind's study area and during the same timeframe that Vineyard Wind's proposed activities would occur. Those monitoring efforts indicated that 346 common dolphins and 6 humpback whales were taken by Level B harassment within just a 200-m harassment zone (Deepwater Wind 2018). Similarly, 607 common dolphins and 12 humpback whales were taken by Level B harassment within the 400-m

⁵ Results from monitoring reports, including animal responses, submitted in support of incidental harassment authorizations issued by NMFS also may inform this matter.

⁶ The animat dosimeters could have been queried to assess whether the Level A harassment zones accurately represented the distances at which Level A harassment was estimated to occur.

⁷ It also is not unusual for a mysticete to remain in the area of a stationary sound source for an extended period of time, particularly in areas where those whales are feeding and the extents of the zones are large.

harassment zone (Deepwater Wind 2018)⁸. Based on the extent of the Level B harassment zones for Deepwater Wind's activities and the numbers of species observed, it is apparent that Vineyard Wind's Level B harassment takes have been vastly underestimated, particularly given that the Level B harassment zones are orders of magnitude greater than Deepwater Wind's zones.

In addition, NMFS authorized much greater numbers of Level B harassment takes for Bay State Wind/Orsted for activities that would produce much smaller harassment zones (i.e., 400 m) and that would occur on fewer days of activities (i.e., 40 days). For example, NMFS authorized Bay State Wind/Orsted to take up to 1,000 common bottlenose dolphins, while Vineyard Wind would be authorized to take only 96 bottlenose dolphins. Similar trends are evident for Risso's dolphins, harbor porpoises, and gray and harbor seals that have been observed in the study area. To ensure that Vineyard Wind does not have to either delay or shut down its activities prematurely due to reaching the number of takes authorized for the various species, the Commission recommends that NMFS reassess the numbers of Level B harassment takes for all species and authorize an appropriate number of takes relative to the extent of the Level B harassment zones, each species' occurrence in the project area⁹, and the 102 days that activities are proposed to occur. NMFS took this same approach and increased the numbers of model-estimated takes for Bay State Wind/Orsted's incidental harassment authorization (83 Fed. Reg. 36552). The Commission expects that it can do so again for Vineyard Wind.

Efficacy of sound attenuation devices

Vineyard Wind based its Level A and B harassment take estimates on an assumed 6-dB reduction in sound levels from the use of one or more of the following: a noise mitigation system, a hydro-sound damper, a noise abatement system, or a bubble curtain. Vineyard Wind would be required to achieve at least a 6-dB reduction in sound levels as verified by sound measurements obtained at the beginning of pile-driving activities. A second back-up attenuation device would be available, if needed, to ensure that Vineyard Wind achieves the required 6-dB reduction in pile-driving sound.

The Commission has raised concerns repeatedly about the assumptions used by NMFS regarding the efficacy of bubble curtains in reducing sound levels associated with pile driving¹⁰ and believes those concerns are still valid. Although Vineyard Wind would be required to achieve at least a 6-dB reduction in sound levels, it also would be allowed to continue pile driving until the sound source data have been processed and analyzed, which NMFS estimated could take a week or more. Further, NMFS did not propose to require Vineyard Wind to conduct in-situ measurements during the remaining 100 days of activities to ensure that the sound attenuation device continues to operate as intended. Regular monitoring of sound levels has been a requirement in Europe during pile-driving operations involving similar-sized piles and should have been a requirement for Vineyard Wind, particularly given that 3- and 10.3-m piles have not been installed and the various sound attenuation devices have yet to be used in the United States. Based on these concerns, the

⁸ In general, Deepwater Wind (2018) observed 2,677 common dolphins and 144 humpback whales during the approximate 85 days of activities. Those observations would have been made well within the range of Vineyard Wind's Level B harassment zones.

⁹ Considering monitoring efforts for other renewable energy activities.

¹⁰ Please review the Commission's [14 May 2019 letter](#) in conjunction with this letter.

Commission recommends that NMFS require Vineyard Wind to (1) submit the results of the sound source measurements taken during installation of the first monopile for which sound attenuation devices are used and adjust the Level A and B harassment zones accordingly *prior to* proceeding with installation of any additional monopiles and (2) conduct sound source measurements at least monthly to ensure that the sound attenuation device continues to provide at least a 6-dB reduction in sound levels.

Passive acoustic monitoring and North Atlantic right whale protections

Vineyard Wind would be required to conduct passive acoustic monitoring to detect North Atlantic right whales within a 10-km clearance zone from 1 May to 14 May and 1 November to 31 December. NMFS would not require Vineyard Wind to conduct passive acoustic monitoring from 15 May to 31 October. However, NMFS indicated that North Atlantic right whales were detected nearly continuously by passive acoustic monitoring in the species' habitat range (including the Vineyard Wind project site)¹¹ (Davis et al. 2017). It is also unclear why NMFS has not included a requirement for year-round passive acoustic monitoring given the clearance zone would be only 1 km during that timeframe and the Level A and B harassment zones extend from 3 to more than 7 km—distances that cannot be effectively observed visually. In addition, Vineyard Wind would be allowed to continue pile driving¹² during nighttime hours¹³. The only way to observe marine mammals during nighttime hours is via passive acoustic monitoring.

NMFS did not propose to authorize Level A harassment takes of North Atlantic right whales. Thus, if a North Atlantic right whale occurred within the Level A harassment zone and Vineyard Wind did not shut down its activities, it would be in violation of its authorization. For these reasons, the Commission recommends that NMFS require Vineyard Wind to conduct passive acoustic monitoring at *all* times during which pile-driving activities occur and implement the necessary shut downs when North Atlantic right whales are detected within the Level A harassment zones.

Proposed authorization requirements

NMFS omitted several standard requirements in its proposed incidental harassment authorization. Those include failing to require Vineyard Wind to—

- cease activities if any marine mammal comes within 10 m¹⁴ of the equipment, particularly during pile placement;
- implement delay and shut-down procedures, if a species for which authorization has not been granted or if a species for which authorization has been granted but the authorized takes are met, approaches or is observed within the Level A and/or B harassment zone; and
- extrapolate the total number of marine mammals taken based on the distance to which visual observations can be made accurately and the extents of the Level A and B harassment zones.

¹¹ Although detections declined from August through October, right whales were still present during those months.

¹² But not *initiate* pile driving at night.

¹³ Based on concerns for human safety or ensuring the feasibility of installation.

¹⁴ This distance should be increased based on the sizes (considering length and width) of the piles proposed for use by Vineyard Wind, as this requirement is intended to minimize the risk of physical impacts on marine mammals.

The Commission recommends that NMFS include the above-stated requirements in the final incidental harassment authorization.

Proposed one-year authorization renewals

NMFS has indicated that it may issue a second one-year¹⁵ incidental harassment authorization renewal for this and other future authorizations if various criteria are met and after an expedited public comment period of 15 days (see 84 Fed. Reg. 18381 and the proposed authorization for details). The Commission agrees that NMFS should take appropriate steps to streamline the authorization process under section 101(a)(5)(D) of the MMPA to the extent possible. However, the Commission is concerned that the renewal process proposed in the *Federal Register* notice is inconsistent with the statutory requirements—section 101(a)(5)(D)(iii) clearly states that proposed authorizations are subject to a 30-day comment period¹⁶.

Another potentially significant issue with the proposed 15-day comment period is the burden that it places on reviewers, who will need to review the original authorization and supporting documentation¹⁷, the draft monitoring report(s), the renewal application or request¹⁸, and the proposed authorization and then formulate comments very quickly. Depending on how frequently NMFS invokes the renewal option, how much the proposed renewal or the information on which it is based deviates from the original authorization, and how complicated the activities and the taking authorization are, those who try to comment on all proposed authorizations and renewals, such as the Commission, would be hard pressed to do so within the proposed 15-day comment period. Therefore, the Commission recommends that NMFS refrain from using the proposed renewal process for Vineyard Wind's authorization. The renewal process should be used sparingly and selectively, by limiting its use only to those proposed incidental harassment authorizations that are expected to have the lowest levels of impacts to marine mammals and that require the least complex analyses. Notices for other types of activities, including Vineyard Wind's pile-driving activities, should not even include the possibility that a renewal might be issued using the proposed foreshortened 15-day comment period. If NMFS intends to use the renewal process frequently *or* for authorizations that require a more complex review or for which much new information has been generated (e.g., multiple or extensive monitoring reports), the Commission recommends that NMFS provide the Commission and other reviewers the full 30-day comment opportunity set forth in section 101(a)(5)(D)(iii) of the MMPA.

¹⁵ NMFS informed the Commission that the renewal would be issued as a one-time opportunity, after which time a new authorization application would be required. NMFS has yet to specify this in any *Federal Register* notice detailing the new proposed renewal process but should do so.

¹⁶ See also the legislative history of section 101(a)(5)(D), which states "...in some instances, a request will be made for an authorization identical to one issued the previous year. In such circumstances, the Committee expects the Secretary to act expeditiously in complying with the notice and comment requirements." (H.R. Rep. No. 439, 103d Cong., 2d Sess. 29 (1994)). The referenced "notice and comment requirements" specify a 30-day comment period.

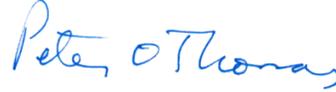
¹⁷ Including the original application, hydroacoustic and marine mammal monitoring plans, take estimation spreadsheets, etc.

¹⁸ Including any proposed changes or any new information.

Ms. Jolie Harrison
3 June 2019
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Please contact me if you have questions regarding the Commission's recommendations.

Sincerely,



Peter O. Thomas, Ph.D.,
Executive Director

References

- Davis, G.E., M.F. Baumgartner, J.M. Bonnell, J. Bell, C. Berchok, J.B. Thornton, S. Brault, G. Buchanan, R.A. Charif, D. Cholewiak, C.W. Clark, P. Corkeron, J. Delarue, K. Dudzinski, L. Hatch, J. Hildebrand, L. Hodge, H. Klinck, S. Kraus, B. Martin, D.K. Mellinger, H. Moors-Murphy, S. Nieu Kirk, D.P. Nowacek, S. Parks, A.J. Read, A.N. Rice, D. Risch, A. Širović, M. Soldevilla, K. Stafford, J. E. Stanistreet, E. Summers, S. Todd, A. Warde, and S.M. Van Parijs. 2017. Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (*Eubalaena glacialis*) from 2004 to 2014. *Scientific Reports* 7(1):13460.
- Deepwater Wind. 2018. South Fork Wind Farm COP [Construction and Operations Plan] Survey 2107 Protected Species Observer Technical Report. Prepared by A.I.S., Inc., for Deepwater Wind New England, LLC. 152 pages.