

By Electronic Mail

June 23, 2021

Ms. Jolie Harrison
Chief, Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
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RE: Proposed Incidental Harassment Authorization Renewal for Marine Site Characterization Surveys Off the Coast of Massachusetts (Lease Areas OCS-A 0501 and OCS-A 0522) and along potential submarine cable routes to landfall locations in Massachusetts, Rhode Island, Connecticut, and New York, as requested by Vineyard Wind, LLC.

Dear Ms. Harrison,

On behalf of our nineteen organizations, and our millions of members, we respectfully submit our recommendations for the National Marine Fisheries Service's ("NMFS") proposal to renew an incidental harassment authorization ("Proposed IHA Renewal") and authorize Vineyard Wind, LLC ("Vineyard Wind") to conduct site characterization surveys off the coast of Massachusetts in the area of the Commercial Leases of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf (OCS-A 0501 and OCS-A 0522) ("Lease Areas") and along potential submarine cable routes to landfall locations in Massachusetts, Rhode Island, Connecticut, and New York (collectively termed the "Project Area"). See 86 Fed. Reg. 30,435 (Jun 8, 2021).

The Biden-Harris Administration has set forth an ambitious and necessary goal for the nation to have net-zero global greenhouse gas emissions by mid-century or before. Our organizations are united in support of responsibly developed offshore wind energy as a critically needed climate change solution, and we have long advocated for policies and actions needed to bring it to scale in an environmentally protective manner. Responsible development of offshore wind energy avoids, minimizes, and mitigates impacts to ocean wildlife and habitat and traditional ocean uses, meaningfully engages stakeholders from the start, and uses best available science and data to ensure science-based and stakeholder-informed decision making.

The rapid transition to a clean energy economy is of paramount importance to wildlife and the environment that face unprecedented impacts from climate change. It is imperative, however, that all offshore wind energy development activities move forward with strong protections in place for coastal and marine habitats and wildlife. We can and must develop this resource thoughtfully and responsibly, using science-based measures to avoid, minimize, mitigate, and monitor impacts on valuable and vulnerable wildlife. This must include a specific focus on ensuring sufficient measures are in place to protect our most vulnerable threatened and endangered species and a robust plan for pre, during, and post

construction monitoring that can enable effective adaptive management strategies. The duty to advance offshore wind energy development in a manner protective of wildlife and the environment extends to site characterization surveys that occur prior to, and during, offshore wind energy construction.

The following comments are intended to support Vineyard Wind in achieving its goal to advance offshore wind in a sustainable manner, while also expressing our concerns regarding NMFS' negligible impact analysis and the avoidance, minimization, mitigation, and monitoring requirements necessary to ensure adequate mitigation measures in the Project Area. Because it is our view that NMFS' analysis likely underestimates the impact of these activities on the reproductive success and survivorship of the North Atlantic right whale, we strongly recommend that the Final IHA Renewal require the following measures, many of which offer protections to other endangered and protected species and stocks.

- Additional seasonal restrictions on site assessment and characterization activities in the Project Area with the potential to injure or harass the North Atlantic right whale (*i.e.*, source level >180 dB re 1 μ Pa (SPL) at 1-meter at frequencies between 7 Hz and 35 kHz)¹ from 1 November 2021 through 30 April 2022 off the coasts of New York and Connecticut, and from 1 December 2021 through 30 April 2022 off the coasts of Rhode Island and Massachusetts;
- A prohibition on the commencement of geophysical surveys at night and during periods of low visibility to maximize the probability that marine mammals are detected and confirmed clear of the exclusion zone;
- A requirement to monitor an exclusion zone for the North Atlantic right whale of 1,000 meters ("m") around each sound source conducting survey activities with noise levels that could result in injury or harassment to this species;
- A requirement that a combination of visual monitoring by Protected Species Observers ("PSOs") and passive acoustic monitoring is implemented at all times that survey work is underway;
- A requirement that four PSOs adhere to a two-on/two-off shift schedule to ensure no individual PSO is responsible for visually monitoring more than 180° of the exclusion zone at any one time;
- A requirement that the developer selects sub-bottom profiling systems, and operates those systems at power settings, that achieve the lowest practicable source level for the objective; and
- A requirement that all project vessels operating within the Project Area, regardless of size, observe a mandatory 10 knot speed restriction during the entire survey period.

¹ The best available science on other low- to mid-frequency sources (*e.g.*, Nowacek et al. 2004, Kastelein et al. 2012, 2015) indicates that Level B takes will occur with near certainty at exposure levels well below the 160 dB threshold that NMFS applies to behavioral impacts.

As we have in the past, we object to NMFS' proposed process to consider extending any one-year IHA with a truncated 15-day comment period as contrary to the MMPA.

I. 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 deemed 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 “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 would have only “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 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

² 16 U.S.C. § 1361(1).

³ *Id.* § 1361(2); see also *Conservation Council for Hawaii v. NMFS*, 97 F. Supp. 3d 1210, 1216 (D. Haw. 2015).

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).

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)(iii).

¹¹ *Id.* § 1371(a)(5)(D)(iii).

II. The Status of Marine Mammals in the Northwestern Atlantic

In addition to rich wind resources, the waters in the Project Area support a diversity of marine life, including at least 14 species of marine mammals, including six large whale species, six small cetacean species, and two pinnipeds.¹² Of the six large whale species, four (North Atlantic right whale, fin whale, sei whale, and sperm whale) are listed as endangered under the Endangered Species Act (“ESA”) and North Atlantic right whales, fin whales, and sei whales are considered to be depleted under the MMPA. The four ESA-listed whale species and stocks found within the Project Area and the Gulf of Maine stock of humpback whales are also listed as strategic stocks under the MMPA.¹³ Moreover, the Gulf of Maine stock of humpback whales, the Canadian East Coast stock of minke whales, and the North Atlantic right whale are currently experiencing Unusual Mortality Events (“UMEs”) as designated by NMFS.¹⁴ Of the small cetaceans, harbor porpoises require special attention during offshore wind energy development because of their extreme sensitivity to noise.¹⁵

A. North Atlantic right whales

The survival of the North Atlantic right whale rests on a knife-edge. The best population estimate for the beginning of 2019 is just 368 individuals¹⁶ and 14 animals have since been reported to have died.¹⁷ Moreover, the best population estimate for the beginning of 2018 has been revised down from 412 individuals¹⁸ to 383 individuals.¹⁹ The new 2019 and revised 2018 estimate a significant decrease in survival during the last three years as a result of the ongoing UME. Additionally, scientists from the New England Aquarium now believe that “low birth rates coupled with whale deaths means there could be no

¹² 85 Fed. Reg. at 26,949, Table 2; NMFS, “Draft U.S. Atlantic and Gulf of Mexico marine mammal stock assessments – 2020” (2020). Available at: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports>.

¹³ *Id.*

¹⁴ NMFS, “2016-2021 Humpback whale Unusual Mortality Event along the Atlantic Coast.” Available at: <https://www.fisheries.noaa.gov/national/marine-life-distress/2016-2021-humpback-whale-unusual-mortality-event-along-atlantic-coast>; NMFS, “2017-2021 Minke whale Unusual Mortality Event along the Atlantic Coast.” Available at: <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2021-minke-whale-unusual-mortality-event-along-atlantic-coast>; NMFS, “2017-2021 North Atlantic right whale Unusual Mortality Event.” Available at: <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2021-minke-whale-unusual-mortality-event-along-atlantic-coast>.

¹⁵ Lucke, K., Siebert, U., Lepper, P.A., and Blanchet, M.A., “Temporary shift in masked hearing thresholds in a harbor porpoise (*Phocoena phocoena*) after exposure to seismic airgun stimuli.” *Journal of the Acoustical Society of America*, vol. 125, pp 4060-4070 (2019).

¹⁶ Pace, R.M., “Revisions and further evaluations of the right whale abundance model: Improvements for hypothesis testing.” NOAA Technical Memorandum NMFS-NE-269. April 2021. Available at: https://apps-nefsc.fisheries.noaa.gov/rcb/publications/tm269.pdf?utm_medium=email&utm_source=govdelivery.

¹⁷ NMFS, “2017-2021 North Atlantic right whale Unusual Mortality Event,” *supra*.

¹⁸ Pettis, H.M., Pace III, R. M., and Hamilton, P.K., “North Atlantic Right Whale Consortium 2019 Annual Report Card.” Report to the North Atlantic Right Whale Consortium (2019). Available at: <https://www.narwc.org/uploads/1/1/6/6/116623219/2019reportfinal.pdf>.

¹⁹ Pettis, H.M., Pace III, R. M., and Hamilton, P.K., “North Atlantic Right Whale Consortium 2020 Annual Report Card.” Report to the North Atlantic Right Whale Consortium (2020). Available at: https://www.narwc.org/uploads/1/1/6/6/116623219/2020narwcreport_cardfinal.pdf.

females left in the next 10 to 20 years.”²⁰ The decline of the species over the past decade is also deeply disturbing. Based on the best population estimate for the species as well as recently documented deaths, approximately 127 animals have been killed since 2011.²¹ Further, documented serious injuries and deaths only represent a small fraction of whales that are injured or killed by human activities.²² A recently published scientific study concludes only 29 percent (2 standard error = 2.8 percent) of North Atlantic right whale carcasses were detected from 2010 to 2017.²³ Females are more negatively affected than males by the lethal and sublethal effects of human activity, now surviving to only 30-40 years of age with an extended inter-calf interval of approximately ten years.²⁴ Calf survival is also severely diminished. Three calves born during the last two calving seasons are already either confirmed or likely dead due to vessel strikes.²⁵ One of the calves’ mothers has been declared seriously injured due to the strike that killed her calf, one mother has not been resighted, and the third has been seriously injured from entanglement in fishing gear.²⁶ A fourth calf was found to have died of natural causes.²⁷ In 2019, North Atlantic right whales were listed as a NOAA “Species in the Spotlight” indicating that they are one of nine marine species to be at greatest risk of extinction in the United States.²⁸ In July 2020, the International Union for Conservation of Nature (“IUCN”) reclassified the North Atlantic right whale from “endangered” to “critically endangered” on the IUCN Red List of Threatened Species, one step away from “extinction.”²⁹

NMFS fails to acknowledge in the Proposed IHA Renewal new scientific information showing that the Project Area coincides directly with year-round “core” North Atlantic right whale foraging habitat.³⁰ Protection of North Atlantic right whales during foraging, and the protection of their foraging habitat, must be one of NMFS’ highest priorities. Foraging areas with suitable prey density are limited

²⁰ Davie, E., “New population estimate suggests only 356 North Atlantic right whales left,” CBC News (Oct. 29, 2020). Available at: <https://www.cbc.ca/news/canada/nova-scotia/356-north-atlantic-right-whales-left-2020-population-1.5779931>.

²¹ Pettis, H.M., *et al.*, “North Atlantic Right Whale Consortium 2020 Annual Report Card,” *supra.*; Pace, R.M., “Revisions and further evaluations of the right whale abundance model: Improvements for hypothesis testing,” *supra.*; NMFS, “2017-2021 North Atlantic right whale Unusual Mortality Event,” *supra.*

²² Sharp, S.M., McLellan, W.A., Rotstein, D.S., Costidis, A.M., Barco, S.G., Durham, K., Pitchford, T.D., Jackson, K.A., Daoust, P.-Y., Wimmer, T., Couture, E.L., Bourque, L., Frasier, T., Frasier, B., Fauquier, D., Rowles, T., Hamilton, P.K., Pettis, H., and Moore, M.J., “Gross and histopathologic diagnoses from North Atlantic right whale *Eubalaena glacialis*, mortalities between 2003 and 2018,” *Diseases of Aquatic Organisms*, vol. 135, pp. 1-31 (2019).; Pace III, R. M., Williams, R., Kraus, S. D., Knowlton, A. R. and Pettis, H. M., “Cryptic mortality of North Atlantic right whales,” *Conservation Science and Practice*, art. e346 (2021).

²³ Pace III, R. M., *et al.*, *id.*

²⁴ Corkeron, P., Hamilton, P., Bannister, J., Best, P., Charlton, C., Groch, K.R., Findlay, K., Rowntree, V., Vermeulen, E., and Pace, R.M., “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).

²⁵ NMFS, “2017-2021 North Atlantic right whale Unusual Mortality Event,” *supra.*

²⁶ *Id.*

²⁷ *Id.*

²⁸ NMFS, “North Atlantic right whale – In the Spotlight.” Available at: <https://www.fisheries.noaa.gov/national/endangered-species-conservation/species-spotlight-action-plan-accomplishments>.

²⁹ Cooke, J.G., “*Eubalaena glacialis*,” *The IUCN Red List of Threatened Species*, e.T41712A162001243 (2020). Available at: <https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T41712A162001243.en>.

³⁰ Oleson, E.M., Baker, J., Barlow, J., Moore, J.E., and Wade, P., “North Atlantic right whale monitoring and surveillance: Report and recommendations of the National Marine Fisheries Service’s Expert Working Group,” NOAA Technical Memorandum NMFS-OPR, p. 64. Available at: <https://repository.library.noaa.gov/view/noaa/25910>.

relative to the overall distribution of North Atlantic right whales, and a decreasing amount of habitat is available for resting, pregnant and lactating females.³¹ This means that unrestricted and undisturbed access to suitable areas, when they exist, is extremely important for the species to maintain its energy budget.³² Scientific information on North Atlantic right whale functional ecology also shows that the species employs a “high-drag” foraging strategy that enables them to selectively target high-density prey patches, but is energetically expensive.³³ Thus, if access to prey is limited in any way, the ability of the whale to offset its energy expenditure during foraging is jeopardized. In fact, researchers have concluded: “[R]ight whales acquire their energy in a relatively short period of intense foraging; even moderate changes in their feeding behavior or their prey energy density are likely to negatively impact their yearly energy budgets and therefore reduce fitness substantially.”³⁴ North Atlantic right whales are already experiencing significant food-stress: juveniles, adults, and lactating females have significantly poorer body condition relative to southern right whales and the poor condition of lactating females may cause a reduction in calf growth rates.³⁵ Indeed, North Atlantic right whale body lengths have been decreasing since 1981, a change associated with entanglements in fishing gear as well as other cumulative stressors.³⁶ NMFS must ensure undisturbed access to foraging habitat to adequately protect the species.

B. Other large whale species

Ongoing UMEs exist for other large whales.³⁷ Alarming, 107 minke whales have stranded between Maine and South Carolina from January 2017 to June 2021 (data through 16 June 2021).³⁸ Elevated numbers of humpback whales have also been found stranded along the Atlantic Coast since January 2016 and, in a little over five years, 150 humpback whale mortalities have been recorded (data through 16 June 2021), with strandings occurring in every state along the East Coast.³⁹ Partial or full necropsy examinations have been conducted on approximately half of the stranded animals and a significant

³¹ Van der Hoop, J., Nousek-McGregor, A.E., Nowacek, D.P., Parks, S.E., Tyack, P., and Madsen, P., “Foraging rates of ram-filtering North Atlantic right whales,” *Functional Ecology*, vol. 33, pp. 1290-1306 (2019); Plourde, S., Lehoux, C., Johnson, C. L., Perrin, G., and Lesage, V., “North Atlantic right whale (*Eubalaena glacialis*) and its food: (I) a spatial climatology of Calanus biomass and potential foraging habitats in Canadian waters,” *Journal of Plankton Research*, vol. 41, pp. 667-685 (2019); Lehoux, C., Plourde S., and Lesage, V., “Significance of dominant zooplankton species to the North Atlantic Right Whale potential foraging habitats in the Gulf of St. Lawrence: a bioenergetic approach,” DFO Canadian Science Advisory Secretariat (CSAS) Research Document 2020/033 (2020). Gavrilchuk, K., Lesage, V., Fortune, S., Trites, A.W., and Plourde, S., “A mechanistic approach to predicting suitable foraging habitat for reproductively mature North Atlantic right whales in the Gulf of St. Lawrence,” DFO Canadian Science Advisory Secretariat (CSAS) Research Document 2020/034 (2020).

³² *Id.*

³³ Van der Hoop, J., *et al.*, *id.*

³⁴ *Id.*

³⁵ Christiansen, F., Dawson, S.M., Durban, J.W., Fearnbach, H., Miller, C.A., Bejder, L., Uhart, M., Sironi, M., Corkeron, P., Rayment, W., Leunissen, E., Haria, E., Ward, R., Warick, H.A., Kerr, I., Lynn, M.S., Pettis, H.M., & Moore, M.J., “Population comparison of right whale body condition reveals poor state of the North Atlantic right whale,” *Marine Ecology Progress Series*, vol. 640, pp. 1-16 (2020).

³⁶ Stewart, J.D., Durban, J.W., Knowlton, A.R., Lynn, M.S., Fearnbach, H., Barbaro, J., Perryman, W.L., Miller, C.A., and Moore, M.J., “Decreasing body lengths in North Atlantic right whales,” *Current Biology*, published online (3 June 2021). Available at: [https://www.cell.com/current-biology/fulltext/S0960-9822\(21\)00614-X](https://www.cell.com/current-biology/fulltext/S0960-9822(21)00614-X).

³⁷ NMFS, “2016-2021 Humpback whale Unusual Mortality Event along the Atlantic Coast,” *supra*; NMFS, “2017-2021 Minke whale Unusual Mortality Event along the Atlantic Coast,” *supra*.

³⁸ NMFS, “2017-2021 Minke whale Unusual Mortality Event along the Atlantic Coast,” *id.*

³⁹ NMFS, “2016-2021 Humpback whale Unusual Mortality Event along the Atlantic Coast,” *supra*.

portion showed evidence of pre-mortem vessel strikes. NMFS recently designated the Gulf of Maine humpback whale stock as a strategic stock under the MMPA, based on the total estimated human-caused average annual mortality and serious injury to this stock, including from vessel strikes.⁴⁰ **The recent designation of Gulf of Maine humpback whales as a strategic stock should be explicitly considered by NMFS as part of the Proposed IHA Renewal.**

The declaration of these UMEs by NMFS in the past few years for three large whale species for which anthropogenic impacts are a significant cause of mortality, and the recent classification of humpback whales as a strategic stock by the agency, demonstrates an increasing risk to whales from human activities along the East Coast.

C. *Other marine mammals*

Harbor porpoises also require special attention during offshore wind energy development because of their extreme sensitivity to noise. Harbor porpoises are substantially more susceptible to temporary threshold shift (i.e., hearing loss) from low-frequency pulsed sound than are other cetacean species that have thus far been tested.⁴¹ Both captive and wild animal studies show harbor porpoises abandoning habitat in response to various types of pulsed sounds at well below 120 dB (re 1 uPa (RMS))⁴² and, in fact, evidence of the acoustic sensitivity of the harbor porpoise has led scientists to call for a revision to the NMFS acoustic exposure criteria for behavioral response.⁴³ Impacts to harbor porpoises must, therefore, also be minimized and mitigated to the full extent practicable during offshore wind siting and development in the waters off the coast of Massachusetts, Rhode Island, Connecticut, and New York, where this species regularly occurs.

D. *NMFS permitting standards*

NMFS is obligated under both the ESA and the MMPA to protect the North Atlantic right whale from additional harmful impacts of human activities and required by the MMPA to consider the full range of potential impacts on all marine mammal species, including endangered fin and sei whales, the strategic stock of humpback whales, minke whales, and strategic stocks of small cetaceans, that are known to utilize the proposed survey area(s) and surrounding regions before issuing an IHA with appropriate

⁴⁰ NMFS, “Draft U.S. Atlantic and Gulf of Mexico marine mammal stock assessments – 2020” (2020). Available at: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports>.

⁴¹ Lucke, K., *et al.*, “Temporary shift in masked hearing thresholds in a harbor porpoise (*Phocoena phocoena*) after exposure to seismic airgun stimuli,” *supra*.

⁴² See, e.g., Bain, D.E., and Williams, R., “Long-range effects of airgun noise on marine mammals: responses as a function of received sound level and distance” Report by Sea Mammal Research Unity (SMRU), 2006.; Kastelein, R.A., Verboom, W.C., Jennings, N., de Haan, D., “Behavioral avoidance threshold level of a harbor porpoise (*Phocoena phocoena*) for a continuous 50 kHz pure tone.” *Journal of the Acoustical Society of America*, vol. 123 (2008): 1858-1861.; Kastelein, R.A., Verboom, W.C., Muijsers, M., Jennings, N.V., van der Heul, S., “The influence of acoustic emissions for underwater data transmission on the behavior of harbour porpoises (*Phocoena phocoena*) in a floating pen.” *Mar. Environ. Res.* Vol. 59 (2005): 287-307; Olesiuk, P.F., Nichol, L.M., Sowden, M.J., and Ford, J.K.B., “Effect of the sound generated by an acoustic harassment device on the relative abundance and distribution of harbor porpoises (*Phocoena phocoena*) in Retreat Passage, British Columbia.” *Marine Mammal Science*, vol. 18 (2002): 843-862.

⁴³ Tougaard, J., Wright, A. J., and Madsen, P.T., “Cetacean noise criteria revisited in the light of proposed exposure limits for harbor porpoises,” *Marine Pollution Bulletin*. vol. 90 (2015): 196-208.

avoidance, minimization, mitigation, and monitoring measures. NMFS must use the best available scientific information on marine mammal presence and density, as required by law.⁴⁴ Considering the elevated threat to federally protected species and stocks in the Atlantic, and that climate-driven changes in oceanographic conditions, and resulting shifts in prey distribution, are rapidly changing the spatial and temporal patterns of habitat use by North Atlantic right whales and other large whale species,⁴⁵ NMFS must ensure that any potential stressors posed by the proposed surveys, and the cumulative impacts of surveys across multiple projects, are mitigated to effectuate the least practicable impact on affected species and stocks.⁴⁶

III. Inconsistencies Between the Proposed IHA Renewal and the Marine Mammal Protection Act

A. NMFS must incorporate additional data sources into calculations of marine mammal density and take

NMFS must base its IHA analysis on the best available scientific information to comply with statutory requirements of the MMPA.⁴⁷ In determining the proportion of marine mammal species and stocks 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 produced by the Duke University Marine Geospatial Ecology Laboratory (Roberts et al. 2016, 2017, 2018).⁴⁸ The updated model for North Atlantic right whales (Roberts et al. 2020) is also qualitatively referenced (see Section II.B). The Roberts *et al.* models exclude data obtained through additional sightings databases, passive acoustic monitoring, and satellite telemetry. As such, it remains our view that the density maps produced by these models 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 must require that all available data are used to ensure that any**

⁴⁴ 16 U.S.C. § 1362(19), § 1362(27).

⁴⁵ See, e.g., Davis, G.E., Baumgartner, M.F., Bonnell, J.M., Bell, J., Berchick, C., Bort Thornton, J., Brault, S., Buchanan, G., Charif, R.A., Cholewiak, D., *et al.*, “Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (*Eubalaena glacialis*) from 2004 to 2014,” *Scientific Reports*, vol. 7, p. 13460 (2017); Davis, G.E., Baumgartner, M.F., Corkeron, P.J., Bell, J., Berchok, C., Bonnell, J.M., Thornton, J.B., Brault, S., Buchanan, G.A., Cholewiak, D.M. and Clark, C.W., “Exploring movement patterns and changing distributions of baleen whales in the western North Atlantic using a decade of passive acoustic data,” *Global change biology*, vol. 26, p.4812 (2020); Guilpin, M., Lesage, V., McQuinn, I., Brosset, P., Doniol-Valcroze, T., Jeanniard-du-Dot, T. and Winkler, G., “Repeated Vessel Interactions and Climate-or Fishery-Driven Changes in Prey Density Limit Energy Acquisition by Foraging Blue Whales,” *Frontiers in Marine Science*, vol. 7, p.626 (2020); Record, N., Runge, J., Pendleton, D., Balch, W., Davies, K., Pershing, A., Johnson, C., Stamieszkin, K., Ji, R., Feng, Z. and Kraus, S., “Rapid Climate-Driven Circulation Changes Threaten Conservation of Endangered North Atlantic Right Whales,” *Oceanography*, vol. 32, pp. 162-169 (2019); Santora, J.A., Mantua, N.J., Schroeder, I.D., Field, J.C., Hazen, E.L., Bograd, S.J., Sydeman, W.J., Wells, B.K., Calambokidis, J., Saez, L. and Lawson, D., “Habitat compression and ecosystem shifts as potential links between marine heatwave and record whale entanglements,” *Nature Communications*, vol. 11, pp.1-12 (2020); Silber, G.K., Lettrich, M.D., Thomas, P.O., Baker, J.D., Baumgartner, M., Becker, E.A., Boveng, P., Dick, D.M., Fiechter, J., Forcada, J. and Forney, K.A., “Projecting marine mammal distribution in a changing climate,” *Frontiers in Marine Science*, vol. 4, p.413 (2017).

⁴⁶ 16 U.S.C. § 1371(a)(5)(D)(ii)(I).

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

⁴⁸ 86 Fed. Reg. at 30,439.

potential shifts in habitat usage by endangered and protected species and stocks are reflected in estimations of marine mammal density and take.

Additional data can be obtained from sightings databases (*e.g.*, WHALEMAP;⁴⁹ NEFSC Monthly DMA analysis⁵⁰) and passive acoustic monitoring efforts (*e.g.*, Robots4Whales detections;⁵¹ NEFSC Acoustic Indicators of Right Whale Occurrence⁵²). Further, from October 2018 through August 2019 and March 2020 through July 2021, monthly standardized marine mammal aerial surveys were flown in the Massachusetts and Rhode Island and Massachusetts Wind Energy Areas by the New England Aquarium.⁵³ A study funded by the Bureau of Offshore Energy Management (“BOEM”) using an autonomous vehicle for real-time monitoring of marine mammals from December 2019 through March 2020⁵⁴ and again from December 2020 through February 2021⁵⁵ on Cox Ledge acoustically detected right whales in all months of the study.⁵⁶ NMFS should take immediate steps to collate and integrate these and more recent data sets to more accurately reflect marine mammal presence for future IHAs and other work.

B. NMFS should be transparent in its decision-making regarding levels of take

We are concerned that NMFS does not present the results of its take analysis for North Atlantic right whales based on the updated habitat-density model for this species (Roberts et al. 2020).⁵⁷ NMFS speaks to this analysis only qualitatively:

“Updated model outputs from Roberts et al. (2020) also suggest that there has been a *slight increase* in sightings and densities of North Atlantic right whales in the survey area. Despite the increase in sightings, *we believe* that an updated unadjusted modeled exposure estimate based on these slightly increased densities would still represent a significant overestimate of the actual potential exposure and therefore propose to carry

⁴⁹ See, <https://whalemap.org/#map>; Johnson, H., Morrison, D., and Taggart, C., “WhaleMap: a tool to collate and display whale survey results in near real-time.” *Journal of Open Source Software*, 6(62), 3094 (2021).

⁵⁰ NOAA Fisheries, “Interactive DMA Analyses.” Northeast Fisheries Science Center, updated September 2019. Available at: <https://apps-nefsc.fisheries.noaa.gov/psb/surveys/interactive-monthly-dma-analyses/>.

⁵¹ Woods Hole Oceanographic Institution, “Robots4Whales.” Available at: <http://dcs.whoi.edu/>; See, also, WCS/WHOI, “Autonomous real-time marine mammal detections, New York Bight buoy.” Available at: http://dcs.whoi.edu/nyb0218/nyb0218_buoy.shtml; WCS/WHOI, “Autonomous real-time marine mammal detections, New York Bight buoy NW.” Available at: http://dcs.whoi.edu/nybnw0120/nybnw0120_buoy.shtml; WCS/WHOI, “Autonomous real-time marine mammal detections, New York Bight buoy SE.” Available at: http://dcs.whoi.edu/nybse0120/nybse0120_buoy.shtml.

⁵² Northeast Fisheries Science Center, “Acoustic Indicators of Right Whale Occurrence” (April 2019). Available at: <https://apps-nefsc.fisheries.noaa.gov/psb/surveys/interactive-monthly-dma-analyses/>.

⁵³ Campaign reports available at: <https://www.masscec.com/marine-mammal-and-sea-turtle-surveys>.

⁵⁴ Woods Hole Oceanographic Institution, “Autonomous Real Team Marine Mammal Detections: Cox Ledge, Winter 2019-2020,” Available at: http://dcs.whoi.edu/cox1219/cox1219_we16.shtml.

⁵⁵ Woods Hole Oceanographic Institution, “Autonomous Real Team Marine Mammal Detections: Cox Ledge, Winter 2020-2021,” Available at: http://dcs.whoi.edu/cox1120/cox1120_we16.shtml.

⁵⁶ The autonomous vehicle was redeployed in Spring 2021 and is currently on active mission. Available at: http://dcs.whoi.edu/cox0321/cox0321_we15.shtml.

⁵⁷ 86 Fed. Reg. at 30,438.

over the same amount of take (10 individuals) as proposed in the initial IHA, which accounts for the expected mitigating effects on the actual taking of right whales.”⁵⁸

Notwithstanding NMFS’ decision to adjust takes of North Atlantic right whales based on mitigation measures (*see* Section III.C), it is inappropriate for NMFS to make judgement calls about the significance of quantitative data without making that data available for public review and comment. **NMFS must publish the results of its updated analysis of North Atlantic right whale density and take based on the Roberts *et al.* (2020) model.**

C. NMFS should establish conservative take numbers for endangered North Atlantic whales

In the previously issued IHA,⁵⁹ NMFS limited the number of Level B takes for North Atlantic right whales to 10 individuals, which was reduced from a calculated take of 31 whales. As a rationale, NMFS cited a combination of presumed effectiveness of the proposed mitigation measures, the assumption that the original take estimate was an overestimate as it was based on acoustic exposure to the largest sound source, and the fact that North Atlantic right whales were not sighted during a separate survey being undertaken in areas adjacent and overlapping with the Project Area, nor in Vineyard Wind’s own marine mammal monitoring report from a survey undertaken in portions of the same area during the previous year.⁶⁰ In the Proposed IHA Renewal, NMFS notes that Vineyard Wind reported four sightings of seven North Atlantic right whales in their preliminary monitoring report for the project’s 2020-2021 surveys, representing an increased amount of sightings during survey activities. The agency also acknowledges that the updated Roberts *et al.* (2020) model indicates a “slight increase” in density of North Atlantic right whales in the survey area.⁶¹ However, NMFS proposes to carry over the same amount of take (10 individuals) proposed in the original IHA, which, in the agency’s view, “accounts for the expected mitigating effects on the actual taking of right whales.”⁶²

While Level B takes for the North Atlantic right whale and other endangered and protected species must be minimized, **we do not share the agency’s confidence that it can successfully mitigate Level B harassment simply through the implementation of the IHA mitigation measures currently required.**

Our reasons are threefold: First, NMFS’ reliance on a 160 dB threshold for behavioral harassment is not supported by the best available scientific information and grossly underestimates Level B take.⁶³ Second,

⁵⁸ *Id.* [Emphasis added].

⁵⁹ 85 Fed. Reg. 26,940 (May 6, 2020).

⁶⁰ Described in 86 Fed. Reg. at 30,438.

⁶¹ *Id.*

⁶² *Id.*

⁶³ See, e.g., Gomez, C., Lawson, J.W., Wright, A.J., Buren, A.D., Tollit, D. and Lesage, V. “A systematic review on the behavioural responses of wild marine mammals to noise: the disparity between science and policy,” *Canadian Journal of Zoology*, vol. 94, pp. 801-819 (2016); Tyack, P.L., and Thomas, L. “Using dose-response functions to improve calculations of the impact of anthropogenic noise,” *Aquatic Conservation: Marine and Freshwater Ecosystems*, vol. 29, pp. 242-253 (2019). See, also, Letter from the Marine Mammal Commission to Ms. Jolie Harrison, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service, regarding the IHA requested by Orsted Wind LLC. (June 13, 2018). Available at: <https://www.mmc.gov/wp-content/uploads/18-06-13-Harrison-Orsted-Bay-State->

the agency relies on the assumption that marine mammals will take measures to avoid the sound even though studies have not found avoidance behavior to be generalizable among species and contexts⁶⁴ and even though avoidance may itself constitute take under the MMPA.⁶⁵ Third, we agree with the Marine Mammal Commission that until the effectiveness of mitigation measures are determined, it is premature to include any related assumptions to reduce the numbers of marine mammal takes.⁶⁶ Collectively, the agency's assumptions regarding acoustic thresholds and mitigation effectiveness are unfounded and NMFS cannot justify any reduction in the number of takes authorized based on these faulty assumptions.

D. NMFS must acknowledge that vessel strikes can result in Level A take

Vessel strikes are a leading cause of large whale injury and mortality 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,⁶⁷ with North Atlantic right whales being particularly vulnerable.⁶⁸ 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. The localized elevation in vessel activity occurring during marine site characterization surveys (up to eight survey vessels may operate concurrently to undertake the surveys described in the Proposed IHA Renewal⁶⁹) naturally increases the vessel collision risk for large

IHA.pdf. The Marine Mammal Commission "...remains concerned that NMFS' current behavior thresholds do not reflect the current state of understanding regarding the temporal and spectral characteristics of various sound sources and their impacts on marine mammals. Therefore, the Commission recommends that, until the behavior thresholds are updated, NMFS require applicants to use the 120- rather than 160-dB re 1 μ Pa threshold for acoustic, non-impulsive sources (e.g., parametric SBPs, chirps, echosounders, and other sonars including side-scan and fish-finding)."

⁶⁴ Miller, P. J. O., Johnson, M. P., Madsen, P. T., Biassoni, N., Quero, M., and Tyack, P. L., "Using at-sea experiments to study the effects of airguns on the foraging behavior of sperm whales in the Gulf of Mexico," *Deep Sea Research Part I: Oceanographic Research Papers*, 56, pp. 1168-1181 (2009); Pirota, E., Milor, R., Quick, N., Moretti, D., Di Marzio, N., Tyack, P., Boyd, I., and Hastie, G., "Vessel noise affects beaked whale behavior: results of a dedicated acoustic response study," *PloS ONE*, vol. 7, e42535 (2012). See, also, Letter from the Marine Mammal Commission to Ms. Jolie Harrison, Supervisor, Incidental Take Program, Permits and Conservation, Office of Protected Resources, National Marine Fisheries Service, regarding the NMFS 5 September 2014 notice (79 Fed. Reg. 53025) and the letter of authorization (LOA) application submitted by the U.S. Department of the Navy seeking issuance of regulations under section 101(a)(5)(A) of the Marine Mammal Protection Act (the MMPA). (September 15, 2015). Available at: https://www.mmc.gov/wpcontent/uploads/Navy_GOA_ANPR_091514.pdf. The Marine Mammal Commission "knows of no scientifically established basis for predicting the extent to which marine mammals will abandon their habitat based on the presence of vessels or aircraft. That would be essential information for adjusting the estimated numbers of takes."

⁶⁵ 16 U.S.C. § 1362(18)(A)(ii).

⁶⁶ See, e.g., Letter from the Marine Mammal Commission to Naval Facilities Engineering Command, Pacific MITT Supplemental EIS/OEIS Project Manager regarding the U.S. Navy's (the Navy) Draft Supplemental Environmental Impact Statement/Overseas Environmental Impact Statement (DSEIS) for training and research, development, testing, and evaluation (testing) activities conducted within the Mariana Islands Training and Testing (MITT) study area (Phase III; 84 Fed. Reg. 677) (February 11, 2019). Available at: <https://www.mmc.gov/wp-content/uploads/19-02-11-Naval-Facilities-Engineering-Command-Pacific-MITT-DSEIS.pdf>.

⁶⁷ NMFS, "2017-2021 North Atlantic right whale Unusual Mortality Event," *supra*; NMFS, "2016-2021 Humpback whale Unusual Mortality Event along the Atlantic Coast," *supra*; NMFS, "2017-2021 Minke whale Unusual Mortality Event along the Atlantic Coast," *supra*.

⁶⁸ Nowacek, D.P., *et al.*, "North Atlantic right whales (*Eubalaena glacialis*) ignore ships but respond to alerting stimuli." *Proceedings of the Royal Society B*, vol. 271 (2004); Cusano, D.A., *et al.*, "Implementing conservation measures for the North Atlantic right whale: considering the behavioral ontogeny of mother-calf pairs," *supra*.

⁶⁹ 86 Fed. Reg. at 30,438.

whales in the area. **NMFS must explicitly analyze the potential for Level A take resulting from vessel collisions in its take analysis for Vineyard Wind.**

IV. Recommendations for Improved Mitigation and Monitoring

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.”⁷⁰

Knowing the cumulative risks posed to the North Atlantic right whale and other endangered and protected species and stocks by increased site assessment and characterization activities, NMFS has an obligation to impose robust mitigation requirements to protect these species to the maximum extent practicable. NMFS acknowledges that marine mammals may be temporarily displaced from feeding areas during survey activities but that this displacement is not expected to cause significant or long-term consequences for individual marine mammals or their populations, given the temporary nature of the activities.⁷¹ However, the best available scientific information shows that the North Atlantic right whale cannot withstand any additional stressors and that *any* potential interruption of foraging behavior may lead to population-level effects and is of critical concern.⁷²

The following site assessment and characterization mitigation measures would help ensure adequate protections for the North Atlantic right whale and many offer protections to other endangered and protected species and stocks.

A. Seasonal and diel restrictions

Vineyard Wind proposes to continue its survey activities on 21 June 2021. No end date is provided but the proposed renewal would be effective for a period of one year from the date of issuance.⁷³ Surveys are proposed to be conducted 24-hours per day by up to eight survey vessels, for an estimated total of 552 vessel days (completed over the course of 181 days).⁷⁴

It is most protective to avoid and reduce impacts in the first instance by separating harmful activities from the species potentially affected. NMFS should prohibit site assessment and characterization activities involving equipment with noise levels that could cause injury or harassment to North Atlantic right whales (based on the best available science, we consider source levels greater than 180 dB re 1 μ Pa (SPL) at 1-meter at frequencies between 7 Hz and 35 kHz to be potentially harmful to low-frequency cetaceans) during periods of highest risk to right whales. These periods are defined as times of highest relative density of animals during their migration, and times when mother-calf pairs, pregnant females, surface

⁷⁰ 16 U.S.C. § 1371(a)(5)(D)(vi).

⁷¹ 85 Fed. Reg. at 26,960.

⁷² *See, e.g.,* Van der Hoop, J., *et al., supra*; Christiansen, F., *et al., supra*.

⁷³ 86 Fed. Reg. at 30,437.

⁷⁴ 86 Fed. Reg. at 30,436.

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 scientific information at the time of the activity.

The Proposed IHA Renewal requires the following seasonal restrictions:

- Survey activities will be undertaken in the Cape Cod Bay Seasonal Management Area (“SMA”) and the Off Race Point SMA only during the months of August and September to ensure sufficient buffer between the SMA restrictions (1 January through 15 May) and to account for known seasonal occurrence of North Atlantic right whales north and northeast of Cape Cod in the fall, winter, and spring;⁷⁵
- A second seasonal restricted area will be in place south of Nantucket from December to February in an area delineated by the Dynamic Management Area (“DMA”) that was effective from 31 January 2020 through 15 February 2020. However, it is not clear from the Proposed IHA Renewal if there will be a complete restriction on survey activity within this area during this timeframe, or that simply a reduction in the number of survey vessels will be required.⁷⁶

These restrictions are not protective enough. Based on the best available scientific information on North Atlantic right whale habitat use within and proximate to the Project Area, *in addition to* the proposed seasonal restrictions, **NMFS should require a seasonal restriction on site assessment and characterization activities involving equipment with noise levels that could cause injury or harassment to North Atlantic right whales from 1 November 2021 through 30 April 2022 in survey areas off the coasts of New York and Connecticut, and from 1 December 2021 through 30 April 2022 in the Lease Areas and survey areas off the coasts of Rhode Island and Massachusetts.** We reiterate that North Atlantic right whales are expected to be present in the Project Area across the entire year and that strong mitigation measures should be required to protect the species year-round.

Further, while NMFS must minimize existing and potential stressors to the North Atlantic right whale to promote the survival and recovery of the species, the agency must also address potential impacts to other protected whale species, particularly in light of the UMEs declared for the strategic stock of humpback whales and minke whales, as well as the several other strategic stocks that populate the Atlantic seaboard. It is therefore imperative that NMFS fully account for the consequences of the proposed North Atlantic right whale seasonal restriction on other protected species. NMFS should also advance a robust and effective near real-time monitoring and mitigation system for North Atlantic right whales and other endangered and protected species that will be more responsive to the ongoing dynamic species distributional shifts resulting from climate change, as well as provide more flexibility to developers.

⁷⁵ 86 Fed. Reg. at 30,440.

⁷⁶ *Id.* NMFS states: “In addition, Vineyard Wind would operate either a single vessel, two vessels concurrently or, for short periods, no more than three survey vessels concurrently in the areas described above during the December– February and March–June timeframes when right whale densities are greatest.” It is not clear as written whether this required reduction in the number of vessels applies to the December to February seasonal restricted area described in the same section or if there will be a complete restriction on survey activity within this area during this timeframe.

In addition, when geophysical survey equipment with the potential to injure or harass protected species and stocks is deployed, **NMFS should require that work commence, with ramp up, only during daylight hours and periods of good visibility to maximize the probability that marine mammals are detected and confirmed clear of the exclusion zone before activities begin.** The activity can then continue into periods of darkness and low visibility. If the activity is halted or delayed because of documented or suspected North Atlantic right whale presence in the area, NMFS should require Vineyard Wind to wait until daylight hours and good visibility conditions to recommence survey activities.

B. Exclusion zone size and monitoring requirements

The Proposed IHA Renewal requires a 500-m exclusion zone for North Atlantic right whales and a 100-m exclusion zone for all other marine mammals, with the exception of certain genera of small delphinids (*i.e.*, *Delphinus*, *Lagenorhynchus*, and *Tursiops* under certain circumstances, such as individuals voluntarily approaching the vessel).⁷⁷ When the exclusion zone is 100 meters, PSOs would also visually monitor a 200-m buffer zone.⁷⁸ During use of acoustic sources with the potential to result in marine mammal harassment (*i.e.*, anytime the acoustic source is active, including ramp-up), occurrences of marine mammals within the buffer zone (but outside the exclusion zone) would be communicated to the vessel operator to prepare for potential shutdown of the acoustic source.⁷⁹ PSOs would also be required to observe a 500-m monitoring zone and record the presence of all marine mammals within this zone and within the Level B harassment zone.⁸⁰

The 160 dB threshold for behavioral harassment is not supported by best available scientific information and grossly underestimates Level B take. **For the North Atlantic right whale, NMFS should establish an exclusion zone of 1,000 meters around each acoustic source with noise levels that could result in injury or harassment to this species. NMFS should also establish a minimum exclusion zone of 500 meters for all other large whale species occurring within the Project Area. In general, the exclusion zones should apply to all acoustic sources operating below 180 kHz that may have the potential to cause acoustic harassment of marine mammals.**

During all high-resolution geophysical (“HRG”) operations, the Proposed IHA Renewal requires that a minimum of two NMFS-approved PSOs must be on duty and conducting visual observations at all times on active survey vessels when HRG equipment is operating, including both daytime and nighttime operations.⁸¹ NMFS requires visual monitoring begin no less than 30 minutes prior to initiation of HRG survey equipment and would continue until 30 minutes after use of the acoustic source ceases or until 30 minutes past sunset. Vineyard Wind, however, has committed to 24-hour use of PSOs.⁸² We agree with the stipulations of the Proposed IHA Renewal that, for each survey vessel, **there must be a minimum of**

⁷⁷ 86 Fed. Reg. at 30,439.

⁷⁸ *Id.*

⁷⁹ 85 Fed. Reg. at 26,955.

⁸⁰ 86 Fed. Reg. at 30,439.

⁸¹ *Id.*

⁸² 85 Fed. Reg. at 26,956.

four PSOs following a two-on, two-off rotation, each responsible for scanning no more than 180° of the horizon.

The ability of PSOs to visually monitor the exclusion zone is impaired during darkness and periods of low visibility. According to the previously issued IHA, PSOs would be equipped with binoculars during daylight and good visibility conditions and reticulated binoculars will also be available.⁸³ However, it is unclear in both the previously issued IHA and the Proposed IHA Renewal, what monitoring technologies and procedures will be required by NMFS or voluntarily employed by Vineyard Wind at night or during periods of poor visibility. The previously issued IHA notes that night-vision equipment (*i.e.*, night-vision goggles and/or infrared technology) is required during nighttime monitoring,⁸⁴ but nighttime monitoring measures are not described in the “Monitoring Measures” section of that document, nor the Proposed IHA Renewal. **NMFS should clarify what visual monitoring measures are required and/or will be employed by Vineyard Wind to monitor the exclusion, buffer, and monitoring zones during daylight hours, poor visibility conditions, and at night.** In general, we support the requirement for the use of infrared equipment to support visual monitoring by PSOs during periods of darkness⁸⁵ and recommend this technology is also used during daylight hours to help maximize probability of detection.⁸⁶

Visual observations are not enough, however. Studies suggest that North Atlantic right whales exhibit behaviors that reduce their likelihood of detection by PSOs. These behavioral responses may be heightened when whales are in the proximity of the acoustic disturbance from geophysical surveys, meaning that animals may be less detectable by observers during the survey period relative to other times.⁸⁷ Other endangered and protected large whales pose similar monitoring challenges. There are also sighting condition limitations. For even the most conspicuous large whale species, estimates of relative detection probability for a Beaufort Sea State of 6 is less than half that for a Beaufort Sea State of 0.⁸⁸

⁸³ 85 Fed. Reg. at 26,959.

⁸⁴ 85 Fed. Reg. at 26,955.

⁸⁵ Lathlean, J. and Seuront, L., “Infra-red thermography in marine ecology: methods, previous applications and future challenges,” *Marine Ecology Progress Series*, vol. 514, p. 263-277 (2014); Smith, H.R., Zitterbart, D.P., Norris, T.F., Flau, M., Ferguson, E.L., Jones, C.G., Boebel, O. and Moulton, V.D., “A field comparison of marine mammal detections via visual, acoustic, and infrared (IR) imaging methods offshore Atlantic Canada,” *Marine Pollution Bulletin*, vol. 154, p.111026 (2020); Zitterbart, D.P., Smith, H.R., Flau, M., Richter, S., Burkhardt, E., Beland, J., Bennett, L., Cammareri, A., Davis, A., Holst, M. and Lanfredi, C., “Scaling the Laws of Thermal Imaging–Based Whale Detection,” *Journal of Atmospheric and Oceanic Technology*, vol. 37, pp.807-824 (2020). In addition, NMFS must consider the limitations of the infrared system proposed and ensure that the detection of marine mammals is possible at distances out to and beyond the exclusion zones, in the geographic region in question, and for all relevant endangered and protected species. These technologies have not been well tested for detection of North Atlantic right whales, and may be relatively ineffective for detecting minke whales, both species of concern in light of the current UMEs declared for the Atlantic coast. Further, NMFS should encourage developers to partner with scientists and collect data that increases our understanding of the effectiveness of infrared technologies, with a view towards greater reliance on these technologies to commence surveys during nighttime hours in the future.

⁸⁶ Smith, H.R., *et al.*, *id.*

⁸⁷ Robertson, F.C., Koski, W.R., Thomas, T.A., Richardson, W.J., Würsig, B., and Trites, A.W., “Seismic operations have variable effects on dive-cycle behavior of bowhead whales,” *Endangered Species Research*, vol. 21, p. 143-160 (2013).

⁸⁸ Barlow, J., “Inferring trackline detection probabilities, $g(0)$, for cetaceans from apparent densities in different survey conditions,” *Marine Mammal Science*, vol. 31, p. 923-943 (2015); Baumgartner, M.F., Cole, T.V.N., Clapham, P.J., and Mate, B.R., “North Atlantic right whale habitat in the lower Bay of Fundy and on the SW Scotian Shelf during 1999-2001,” *Marine Ecology Progress Series*, vol. 264, p. 137-154 (2003). Sea state has been demonstrated to have a direct effect on the sighting probability of North Atlantic right whales in the Lower Bay of Fundy and in Roseway Basin of the Southwest

Based on data collected by the National Buoy Data Center,⁸⁹ a monthly average Beaufort Sea State of at least 3 or 4 can be expected in lease areas situated along the East Coast, year-round. Given these data, observers alone are certain to underestimate the total number of large whales in the mitigation area based on sea state.

The previously issued IHA indicates that Vineyard Wind will voluntarily employ PAM to support monitoring at night,⁹⁰ however there is no reference to PAM in the “Monitoring Measures” section of that document, nor the Proposed IHA Renewal; **this should be clarified by NMFS**. NMFS’ failure to require passive acoustic monitoring at any time during geophysical surveys is also extremely concerning. **NMFS should require passive acoustic monitoring at all times to maximize the probability of detection for North Atlantic right whales and, ideally, other endangered and protected species and stocks**, including during periods of fog, precipitation, and high sea states, when PSOs and infrared technologies are less effective. It should be noted that passive acoustic monitoring without visual observers would also be insufficient as individuals may not continually vocalize. At minimum, NMFS should always require a combination of agency-approved PSOs to visually detect whales and passive acoustic monitoring to detect vocalizations in near-real time when noise levels that could result in injury or harassment to the species are being conducted.

The passive acoustic monitors for this and future wind development projects should be part of a migratory corridor-wide network of passive acoustic monitors organized by NOAA and BOEM in collaboration with state governments as well as private, academic, and non-profit partners.

C. Reduction of underwater noise

The Proposed IHA Renewal sets no requirement to minimize the impacts of underwater noise through the use of best available technology and other methods to minimize sound levels from geophysical surveys.

According to NOAA’s “Ocean Noise Strategy Roadmap:”

“[W]here noise is concerned, mitigation should be broadly designed to do one of two things: (1) reduce the temporal or spatial overlap of ensonified areas with marine taxa (or acoustic habitat) in particular times, places or circumstances, and/or (2) reduce the sound

Scotian Shelf (Baumgartner et al. 2003). In line with Barlow (2015), the probability of sighting a North Atlantic right whale in this area changed by a factor of 0.628 (95% CI: 0.428-0.921) for every unit increase in sea state. These studies indicate the effect of increasing Beaufort Sea State in reducing the probability of detection of large whales, including the North Atlantic right whale. From the findings of Baumgartner et al. (2003), a reduction in detection probability of North Atlantic right whales by up to 84.5 percent based on an average Beaufort Sea State of 4 would be expected, relative to ideal sighting conditions (*i.e.*, Beaufort sea state = 0). Notably, the detectability of North Atlantic right whales even under ideal sighting conditions is likely to be significantly less than 100 percent given availability and perception biases other than those involving sea state.

⁸⁹ NOAA-NWS, “National Data Buoy Center.” Available at: <http://www.ndbc.noaa.gov/>.

⁹⁰ 85 Fed. Reg. at 26,958.

level at the source (which may include replacing the source with a different type of source capable of the same function).”⁹¹

In addition, simulation studies comparing the level of risk reduction associated with technologies that allow for reduced source levels and current exclusion zone mitigation practices indicate that there will be very few instances where mitigation using visual observers can achieve a greater risk reduction than would be achieved by a reduction in source level.⁹² Thus, reducing sound emissions at the source is one of the most effective means of mitigating the impacts of noise on protected species.

NMFS should require that Vineyard Wind select sub-bottom profiling systems, and operate those systems at power settings, that achieve the lowest practicable source level for the objective. In general, NMFS must require that all IHA applicants minimize the impacts of underwater noise to the fullest extent feasible, including through the use of best available technology and methods to minimize sound levels from geophysical surveys.

D. Vessel speed restrictions

According to the Proposed IHA Renewal, up to eight HRG survey vessels may operate concurrently to undertake the survey activities proposed.⁹³ On effort surveying vessel speed will be approximately 3.5 knots.⁹⁴ No information is provided on off-effort vessel speeds in the Proposed IHA Renewal.

Vessel strikes are a leading cause of large whale injury and mortality 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,⁹⁵ with North Atlantic right whales being particularly vulnerable.⁹⁶ Moreover, the number of recorded vessel collisions of large whales each year is likely a gross underestimate of the actual number of animals struck, as animals struck but not recovered, or not thoroughly examined, cannot be accounted for.⁹⁷ In fact, observed carcasses of North Atlantic right whales from all causes of death may have only accounted for 36 percent of all estimated death during 1990-2017, with detection rates dropping

⁹¹ Gedamke, J., *et al.*, “Ocean Noise Strategy Roadmap,” NOAA Fisheries, (2016), at 23. Available at: https://cetsound.noaa.gov/Assets/cetsound/documents/Roadmap/ONS_Roadmap_Final_Complete.pdf.

⁹² Leaper, R., Calderan, S., and Cooke, J., “A simulation framework to evaluate the efficiency of using visual observers to reduce the risk of injury from loud sound sources,” *Aquatic Mammals*, vol. 41, pp. 375-387 (2015).

⁹³ 86 Fed. Reg. at 30,436.

⁹⁴ *Id.*

⁹⁵ NMFS, “2017-2021 North Atlantic right whale Unusual Mortality Event,” *supra*; NMFS, “2016-2021 Humpback whale Unusual Mortality Event along the Atlantic Coast,” *supra*; NMFS, “2017-2021 Minke whale Unusual Mortality Event along the Atlantic Coast,” *supra*.

⁹⁶ Nowacek, D.P., *et al.*, “North Atlantic right whales (*Eubalaena glacialis*) ignore ships but respond to alerting stimuli.” *Proceedings of the Royal Society B*, vol. 271 (2004); Cusano, D.A., *et al.*, “Implementing conservation measures for the North Atlantic right whale: considering the behavioral ontogeny of mother-calf pairs,” *supra*.

⁹⁷ Reeves, R.R., Read, A.J., Lowry, L., Katona, S.K., and Boness, D.J., “Report of the North Atlantic Right Whale Program Review.” 13–17 March 2006, Woods Hole, Massachusetts, prepared for the Marine Mammals Commission, (2007); Parks, S.E., Warren, J.D., Stamieszkin, K., Mayo, C.A., and Wiley, D., “Dangerous dining: surface foraging of North Atlantic right whales increases risk of vessel collisions,” *Biology Letters*, vol. 8, p. 57-60 (2011).

to 29 percent for the period of 2010-2017.⁹⁸ Detection rates may be similarly low for other large whale species, and even lower for species that receive relatively less surveillance effort.

Serious injury or mortality can occur from a vessel traveling above ten knots, irrespective of length⁹⁹ and vessels of any length travelling below this speed still pose a serious risk.¹⁰⁰ The NOAA Fisheries Large Whale Ship Strike Database reveals that blood was seen in the water in at least half of the cases where a vessel known to be less than 65 feet in length struck a whale, evidencing potential serious injury or mortality.¹⁰¹ As small vessel collisions with whales are under-reported they may comprise a greater proportion of strikes than reflected in the NOAA database.¹⁰² The recent report of the death of a month-old North Atlantic right whale calf after it was struck by a 54-foot sportfishing boat, and the serious injury of its mother by the same or second vessel, is a clear demonstration that smaller vessels pose an unacceptable risk.¹⁰³ Small vessels striking whales also pose a risk to human safety. Small vessels involved in whale strikes have suffered cracked hulls, damage to propellers and rudders, and blown engines.¹⁰⁴ Passengers have been knocked off their feet or thrown from the boat upon impact with a whale.¹⁰⁵ In carrying out its own analysis on the effectiveness of the right whale vessel speed rule, NMFS determined that “the number of documented and reported small vessel collisions with whales necessitates further action both as it relates to potential regulations and outreach to this sector of the mariner community.”¹⁰⁶

Vessel strikes are one of the main factors driving the North Atlantic right whale to extinction. Since 2017, just over half of the known or suspected causes of mortality for the species have been attributed to vessel strikes.¹⁰⁷ Mothers and calves are extremely vulnerable. Three North Atlantic right whale calves born during the last two calving seasons have been killed as a result of vessel strikes. On January 8, 2020, the

⁹⁸ Pace III, R. M., Williams, R., Kraus, S. D., Knowlton, A. R. and Pettis, H. M.,” Cryptic mortality of North Atlantic right whales,” *Conservation Science and Practice*, e346 (2021).

⁹⁹ NMFS, “Reducing vessel strikes to North Atlantic right whales.” Available at: <https://www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-vessel-strikes-north-atlantic-right-whales#:~:text=March%2026%2C%202021.,Vessel%20Speed%20Restrictions,endangered%20North%20Atlantic%20right%20whales>. To reflect the risk posed by vessels of any length, the Commonwealth of Massachusetts established a mandatory vessel speed restriction for all vessels (including under 20 meters) in the Cape Cod Bay SMA.

¹⁰⁰ Kelley, D.E., Vlasic, J.P. and Brilliant, S.W., “Assessing the lethality of ship strikes on whales using simple biophysical models,” *Marine Mammal Science*, vol. 37, pp. 251-267 (2020).

¹⁰¹ Jensen, A.S. and Silber, G.K., “*Large Whale Ship Strike Database*,” U.S. Department of Commerce, NOAA Technical Memorandum NMFS-OPR-25 (Jan. 2004) at 12–37.

¹⁰² Hill, A.N., Karniski, C., Robbins, J., Pitchford, T., Todd, S., and Asmutis-Silvia, R., “Vessel collision injuries on live humpback whales, *Megaptera novaeangliae*, in the southern Gulf of Maine,” *Marine Mammal Science*, vol. 33, pp. 558–573 (2017).

¹⁰³ NMFS, “2017-2021 North Atlantic right whale Unusual Mortality Event,” *supra*; *see, also*, <https://www.miamiherald.com/news/local/environment/article249313950.html>.

¹⁰⁴ Jensen, A.S. and Silber, G.K., “*Large Whale Ship Strike Database*,” *supra*.

¹⁰⁵ Bigfish123, Comment to *Collision at Sea*, The Hull Truth (May 1, 2009, 5:44 am). Available at: <http://www.thehulltruth.com/boating-forum/222026-collision-sea.html>.

¹⁰⁶ NMFS, “North Atlantic Right Whale (*Eubalaena glacialis*) Vessel Speed Rule Assessment” (2020). Available at: https://media.fisheries.noaa.gov/2021-01/FINAL_NARW_Vessel_Speed_Rule_Report_Jun_2020.pdf?null.

¹⁰⁷ NMFS, “2017-2021 North Atlantic right whale Unusual Mortality Event,” *supra*.

newborn calf of right whale #2360 was seriously injured by a passing vessel off the coast of Georgia.¹⁰⁸ The prognosis for survival was determined to be poor, and neither the calf nor its mother have been seen since January 16.¹⁰⁹ A second calf born last season was found dead on June 25, 2020 off the coast of New Jersey.¹¹⁰ The examination of the carcass indicated that this calf had been struck twice; a non-fatal strike occurred several weeks before the collision killing the whale.¹¹¹ Given the close association between mothers and calves, adverse impacts to the mothers from vessel strike events cannot be ruled out.¹¹² As previously discussed, a one-month old calf was found stranded in Florida in February 13, 2021 with fatal injuries. The calf's mother, "Infinity" #3230, was documented with serious injuries suggestive of a vessel strike on February 16, 2021. This species cannot sustain further anthropogenic mortalities of reproductive females or their calves.

North Atlantic right whales are particularly prone to vessel strike given their slow speeds, their occupation of waters near shipping lanes, and the extended time they spend at or near the water's surface.¹¹³ Some types of anthropogenic noise have been shown to induce sub-surface positioning in North Atlantic right whales, increasing the risk of vessel strike at relatively moderate levels of exposure.¹¹⁴ NMFS itself notes that noise can induce flight responses, behavioral disturbances, and habitat avoidance.¹¹⁵ Because of the noise associated with geophysical surveys, site assessment and characterization activities could cause horizontal displacement¹¹⁶ and push a North Atlantic right whale out of a speed restriction zone (SMA or DMA) into an area where vessels are traveling at greater speed, presenting an even greater danger of vessel collision. NMFS' analysis must also account for habitat displacement producing an indirect vessel strike.

NMFS should therefore act conservatively and implement mitigation measures to prevent any further vessel strikes for North Atlantic right whales or other species of large whale currently experiencing a UME (*i.e.*, humpback whales and minke whales), as well as species such as fin and sei whales. The broad distributional shifts observed for multiple species, as well as mixed species feeding aggregations observed in the regions where site assessment and characterization will be undertaken, pose an increased risk of vessel strike for large whales. This may potentially exacerbate current UMEs or increase the risk of additional species experiencing a UME in the future.

¹⁰⁸ NMFS, "North Atlantic Right Whale Calf Injured by Vessel Strike" (Jan. 13, 2020). Available at: <https://www.fisheries.noaa.gov/feature-story/north-atlantic-right-whale-calf-injured-vessel-strike>.

¹⁰⁹ *Id.*

¹¹⁰ NMFS, "Dead North Atlantic Right Whale Sighted off New Jersey" (Jun. 29, 2020). Available at: <https://www.fisheries.noaa.gov/feature-story/dead-north-atlantic-right-whale-sighted-new-jersey>.

¹¹¹ *Id.*

¹¹² NMFS, "North Atlantic Right Whale Calf Stranded Dead in Florida" (Feb. 14, 2021), <https://www.fisheries.noaa.gov/feature-story/north-atlantic-right-whale-calf-stranded-dead-florida>.

¹¹³ NMFS, "Recovery plan for the North Atlantic right whale (*Eubalaena glacialis*) Revision" prepared by the Office of Protected Resources, National Marine Fisheries Service" (August 2004).

¹¹⁴ Nowacek, D.P., *et al.*, "North Atlantic right whales (*Eubalaena glacialis*) ignore ships but respond to alerting stimuli," *supra*.

¹¹⁵ *See, e.g.*, 85 Fed. Reg. at 37,860-37,862 (Jun. 24, 2020).

¹¹⁶ *E.g.*, Castellote, M., Clark, C.W., and Lammers, M.O., "Acoustic and behavioural changes by fin whales (*Balaenoptera physalus*) in response to shipping and airgun noise," *Biological Conservation*, vol. 147, pp. 115-122 (2012).

In the Proposed IHA Renewal, NMFS implicitly authorizes survey vessels (and any additional project-related vessels such as crew transfer vessels) to travel at speeds greater than 10 knots, unless a right whale is observed within 500 meters.¹¹⁷ The previously issued IHA also stated that project-related vessels of any size limit speeds to 10 knots or less within active SMAs or DMAs,¹¹⁸ however, this requirement is not restated in the Proposed IHA Renewal; **NMFS should clarify this discrepancy.**

The required measures are wholly insufficient. *First*, any interaction between a vessel and whale poses a risk of serious injury or mortality. This is true irrespective of the number of other vessels operating in the same location. An addition of even a single vessel traveling at speeds over 10 knots pose an unacceptable risk. *Second*, the dire conservation status of the North Atlantic right whale means that even a single vessel strike will have population-level consequences. *Third*, NMFS' own analysis shows that mariner compliance with voluntary speed reduction measures (*i.e.*, DMAs) is extremely low (approximately 35 to 47 percent)¹¹⁹ indicating mandatory speed reduction requirements are necessary to provide protection.

Vessel strikes pose an unacceptable risk. NMFS must require all offshore wind energy related project vessels operating within or transiting to/from survey areas, regardless of size, to observe a 10-knot speed restriction during the entire survey period.¹²⁰ An exception may be made in limited circumstances where the best available scientific information demonstrates that whales do not use the area at any time.

V. Extensions of Any One-Year Authorizations Through a Truncated 15-Day Comment Period Must be Prohibited

On March 7, 2019, NMFS began issuing notice of a new reauthorization process for a multitude of permits. Specifically, NMFS requests comment on the potential one-year renewal of authorizations on a case-by-case basis for identical or nearly identical activities, with only an additional 15 days for public comment, should various criteria be met. As we describe below, this appears to be a misinterpretation of the law by the previous Administration that could be easily remedied to comply with the process and provide adequate opportunity for public input.

For several reasons, our organizations have repeatedly opposed this process as contrary to law. First, NMFS' proposal to provide one-year renewals does not comport with the plain language of the MMPA. Section 101(a)(D)(i) unambiguously states that incidental harassment authorizations are valid for periods of not more than one year.¹²¹ Second, the statute is clear on its face that a 30-day comment period is required in all instances.¹²² 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 process: "As

¹¹⁷ 86 Fed. Reg. at 30,440.

¹¹⁸ 85 Fed. Reg. at 26,957.

¹¹⁹ NMFS, "North Atlantic Right Whale (*Eubalaena glacialis*) Vessel Speed Rule Assessment," *supra*.

¹²⁰ NMFS need not wait to finalize a new rulemaking on the North Atlantic right whale vessel speed rule to impose these restrictions as conditions of offshore wind permitting.

¹²¹ 16 U.S.C. § 1371(a)(5)(D)(i).

¹²² *Id.* § 1371(a)(5)(D)(iii).

approved by the Committee, the [MMPA] involves a number of basic concepts,” one being that “the public is invited and encouraged to participate fully in the agency decision-making process.”¹²³ When NMFS adheres to this process, “the public is assured of the right to be informed of actions taken or proposed.”¹²⁴ Third, the legislative history removes any doubt that this 30-day comment period applies even in cases where a new application extends the IHA for another year without change.¹²⁵

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.¹²⁶ Moreover, NMFS has not supplied a sufficient 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.¹²⁷

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.”¹²⁸ 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 unlawful hybrid administrative extension process, with a curtailed comment period, is consistent with both statutorily-established processes.

NMFS’ statement regarding Incidental Harassment Authorization Renewals on its website¹²⁹ fails to provide a clear and legally adequate justification for its purported new reauthorization process especially in light of the burden the foreshortened comment period places on interested members of the public to review and formulate comments, all within 15 calendar days. As 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.

¹²³ H.R. Rep. No. 92-707, at 4151 (1972), reprinted in 1972 U.S.C.C.A.N. 4144, 4151.

¹²⁴ *Id.* at 4146.

¹²⁵ H.R. Rep. No. 103-439, at 29 (1994).

¹²⁶ 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.”).

¹²⁷ 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”).

¹²⁸ 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).

¹²⁹ See, e.g., *NOAA Fisheries*, “Incidental Take Authorizations under Marine Mammal Protection Act,” last updated June 24, 2020, <https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act>.

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VI. Conclusion

Thank you for considering our comments. For the reasons stated above, our organizations urge NMFS to revise its analysis and require additional measures in the Final IHA Renewal to comply with its statutory obligations.

Sincerely,

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June 23, 2021

Submitted via electronic mail to ITP.tyson.moore@noaa.gov

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

Re: Vineyard Wind, LLC Proposed Renewal of Incidental Harassment Authorization (86 Fed. Reg. 30435. June 8, 2021)

Dear Jolie Harrison:

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

Addressing climate change is important for oceans, wildlife and our future. By shifting from fossil fuel energy to clean, renewable energy sources, the United States can help address this crisis. Oceana was pleased to see the recent announcement from the Biden Administration to deploy 30 GW of offshore wind power by 2030 while protecting biodiversity and cultural resources, including imperiled marine life such as the critically endangered North Atlantic right whale (NARW).

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

For almost 15 years, Oceana has been campaigning to oppose expanded offshore oil and gas exploration and development. Offshore drilling can cause dangerous oil spills, but also continues to perpetuate energy development based on fossil fuels. The United States must shift from

fossil fuel-based energy sources to clean energy. Offshore wind has the potential to help bridge the transition to our clean energy future.

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

Oceana thanks you for the opportunity to submit comments as your agency considers an application for a renewed Incidental Harassment Authorization to support the site characterization of the Vineyard Wind project south of Massachusetts. Oceana submits these comments to help ensure that the proposed activities avoid adverse effects on marine mammals and if adverse effects cannot be avoided, minimize or mitigate effects. The National Marine Fisheries Service (Fisheries Service) is the steward of the remaining NARWs that swim along our coasts and, as the agency responsible for their recovery, should ensure that the continued authorization of Vineyard Wind site characterization is based on the Best Scientific Information Available and that strong protections are in place before approving this or any proposed activity that may take, harass, or cause stress to NARWs.

The role of Incidental Harassment Authorizations-

As you know, the Marine Mammal Protection Act (MMPA) was adopted nearly fifty years ago with the goal of protecting and promoting the growth of marine mammal populations “to the greatest extent feasible commensurate with sound policies of resource management” in order to “maintain the health and stability of the marine ecosystem.”¹ To protect marine mammals from human activities, the MMPA establishes a moratorium on the “take” of marine mammals including activities that may harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal.² In limited circumstances, the Fisheries Service, the agency responsible for protecting most marine mammal species,³ may grant exceptions to the take moratorium, such as

¹ 16 U.S.C. § 1361(6).

² 16 U.S.C. §§ 1361(2), 1371.

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

for the incidental, but not intentional, taking of marine mammals for certain activities, which is done via an incidental take authorization.⁴

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

There are two types of incidental take authorizations: Letters of Authorization (“LOAs”) and Incidental Harassment Authorizations (“IHAs”). An IHA is limited to one year, and the action authorized may only have the potential to result in “harassment.” Therefore, an IHA cannot be issued if an action leads to “serious injury” or mortality of a marine mammal; instead, an LOA is required. Importantly, the Fisheries Service’s 2012 Policy Directive defines “serious injury” as “any injury that is ‘more likely than not’ to result in mortality, or any injury that presents a greater than 50 percent chance of death to a marine mammal.”⁷

Marine Mammal Protection Act Requirement to use Best Available Science-

The MMPA was the first congressional act to include a “best available science” mandate.⁸ The statute requires use of “best scientific evidence available” in determining any waiver of the moratorium on the taking and importation of marine mammals and marine mammal products.⁹ Additionally, MMPA implementing regulations require the agency to use the “best scientific information available.”¹⁰ The Fisheries Service must therefore comply with the “best available science” mandate in analyzing whether or not to authorize incidental takes.

Comments on the Contents of an IHA for Vineyard Wind Site Characterization

In order to issue an IHA for Vineyard Wind site characterization or any offshore wind project, the Fisheries Service must ensure that the application meets the requirements for an IHA and that the IHA includes conditions that will guarantee the site characterization surveys have the least practicable impact on marine mammal species or stocks and their habitats in and around the project

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

⁵ 16 U.S.C. § 1371(a)(5)(A), (D).

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

⁷ Fisheries Service, *Policy Directive PD 02-238: Process for Distinguishing Serious from Non-Serious Injury of Marine Mammals 2* (2012), <https://media.fisheries.noaa.gov/dam-migration/02-238.pdf>.

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

⁹ 16 U.S.C. § 1371(a)(3)(A).

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

site. Oceana hopes the comments provided on these important elements will make the Vineyard Wind site characterization successful while also considering the adverse effects on marine mammals.

Use Best Available Science- The NARW is a critically endangered species that has experienced significant declines in the last decade with the most recent population estimate of just 356 remaining NARWs.¹¹ This new population estimate was released in 2020 and is nearly 14 percent lower than the estimate that is used in the analysis to support the IHA which is being considered for renewal. As NOAA considers the IHA renewal application, it must use the most recent population estimate.

NARWs are known to feed, socialize and breed in the U.S. northeast and eastern Canada before mothers migrate south to calve and then return to the Northeast. As the Federal Register notes “the mean annual North Atlantic right whale densities have slightly increased in the activity area” since the previous IHA was issued for this project. However, that summation likely underestimates the true importance of the area to NARWs year-round, and this needs to be more fully explored and analyzed before an IHA is renewed. Specifically, the Fisheries Service should fully consider both the use of the area and the effects of chronic stressors on the health and fitness of North Atlantic right whales.

The importance of the area is discussed in a federal expert panel report finding that this area is year-round core habitat for North Atlantic right whales with up to 100 NARWs in the vicinity of the project at times in recent years.^{12,13}

Chronic stressors are an emerging concern for NARW conservation and recovery and a recent peer-reviewed study suggests that a range of stresses on NARWs have stunted growth rates.¹⁴ Disruptive site characterization activities may do more than startle or spook NARWs in this area and may cause chronic stress to the whales or cause the whales to seek other feeding areas at great energetic cost, decreasing their fitness, body condition and ability to successfully feed, socialize and mate.

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

¹¹ H.M. Pettis et al., North Atlantic Right Whale Consortium 2020 Annual Report Card, https://www.narwc.org/uploads/1/1/6/6/116623219/2020narwcreport_cardfinal.pdf (last visited May 4, 2021).

¹² Erin M. Oleson, Jason Baker, Jay Barlow, Jeff E. Moore, Paul Wade. 2020. North Atlantic Right Whale Monitoring and Surveillance: Report and Recommendations of the National Marine Fisheries Service's Expert Working Group. NOAA Tech. Memo. NMFS-F/OPR-64, 47 p.

¹³ Leiter, et al. 2017. North Atlantic right whale *Eubalaena glacialis* occurrence in offshore wind energy areas near Massachusetts and Rhode Island, USA. *Endangered Species Research* July 2017, 45-59.

¹⁴ Stewart, et al. 2021. Decreasing body lengths in North Atlantic right whales. *Current Biology* 2021, 31, 1-6.

Fully Consider Cumulative Effects- While an individual activity such as a site characterization project may have negligible effects on the marine environment or a negligible number of interactions with protected species, because of the large number of offshore wind-related activities being considered in the NE region, it is important that the Fisheries Service fully consider the discrete effects of each activity and the cumulative effects of the suite of approved, proposed and potential activities on marine mammals and North Atlantic right whales in particular and ensure that the cumulative effects are not excessive before issuing or renewing an IHA.

Project Conditions

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

Vessel traffic plan, restrictions, and transparency

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

Observers- All vessels associated with the proposed Vineyard Wind site characterization should be required to carry and use protected species observers (PSOs) at all times when under way. Because visual sighting of whales, including NARWs is difficult, particularly in low light conditions, the IHA should require service vessels to complement observer coverage with additional monitoring technologies, such as infrared (IR) detection devices for whales and other protected species when under way. Recent research has suggested that a complementary approach combining human and technological tools is most effective in capturing the most detections.¹⁵

Speed- Research suggests that reducing vessel speed can reduce risk of vessel collision mortality by 80-90 percent for large whales like the NARW.¹⁶ Due to the risk of ship strikes to NARWs in the project area, the IHA should limit all vessels of all sizes associated with the proposed site characterization to speeds less than 10 knots at all times with no exemptions of exception.

¹⁵ Smith, et al. 2020. A field comparison of marine mammal detections via visual, acoustic, and infrared (IR) imaging methods offshore Atlantic Canada. *Marine Pollution Bulletin*. 154 (2020) 111026.

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

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

Vessel Transparency- To support oversight and enforcement of the conditions on the HRG survey, the IHA should require all vessels to be equipped with and using a Class A Automatic Identification System (AIS) devices at all times while on the water. This should apply to all vessels, regardless of size, associated with the project.

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

Transparency and Reporting- The project will be a private enterprise conducted on shared public waters and as such, the IHA must include a requirement for all phases of the Vineyard Wind site characterization to subscribe to the highest level of transparency, including frequent reporting to federal agencies, requirements to report all visual and acoustic detections of NARWs and any dead, injured, or entangled marine mammals to the Fisheries Service or the Coast Guard as soon as possible and no later than the end of the Protected Species Observer shift.

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

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

- Creation of clearance zones for NARWs that extend at least 1,000 meters with requirements for HRG survey vessels to use PSOs and Passive Acoustic Monitoring (PAM) to establish and monitor these zones with requirements to cease surveys if a NARW enters the clearance zone.
- A shutdown requirement if a NARW or other protected species is detected in the clearance zones noted above, unless necessary for human safety. If and when this exemption occurs the project must immediately notify the Fisheries Service with reasons and explanation for

exemption and a summary of the frequency of these exceptions must be publicly available to ensure that these are the exception rather than the norm for the project.

- When safe to resume, HRG surveys should be required to use a soft start, ramp-up procedure to encourage any nearby marine life to leave the area.

Conclusion

Oceana is enthusiastic about the Biden administration focus on development of offshore wind in U.S. waters as part of an effective and responsible response to the climate crisis. The potential for development of offshore wind in U.S. waters is significant and should be pursued without delay. As the Administration advances offshore wind development projects like Vineyard Wind site characterization, there is an opportunity to both advance clean energy goals while protecting biodiversity. Oceana recognizes the necessity of site characterization in the wind development process and urges the Fisheries Service to only issue an IHA for this survey if it includes a thorough discussion of the new science discussed above and includes the range of conditions that will ensure the site characterization surveys in and around the Vineyard Wind project site are conducted responsibly with the least practicable impact on marine mammals.

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

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

Thank you,



Beth Lowell
Deputy Vice President, US Campaigns
Oceana
Washington, DC