

***Submitted electronically to: Purvi.patel@state.ma.us***

January 25, 2018

Mr. Matthew Beaton  
Secretary of Energy and Environmental Affairs  
Executive Office of Energy and Environmental Affairs (EEA)  
Attn: MEPA Office, Purvi Patel, EEA No. 15787 (Vineyard Wind Connector)  
100 Cambridge Street, Suite 900  
Boston, MA 02114

**Re: Massachusetts Final Environmental Impact Report for Vineyard Wind, LLC's  
Proposed Vineyard Wind Connector (EEA #15787)**

Dear Secretary Beaton:

On behalf of Conservation Law Foundation (CLF), Natural Resources Defense Council (NRDC), National Wildlife Federation (NWF), Mass Audubon, and the Environmental League of Massachusetts, and our millions of members, we submit the following comments on the Massachusetts Final Environmental Impact Report for the Vineyard Wind Connector (EEA #15787) (Project) submitted by Vineyard Wind LLC. Our organizations applaud the Commonwealth's leadership to advance offshore wind. The Vineyard Wind Project will, if responsibly developed with care to avoid, minimize, and mitigate potential environmental and economic impacts, have substantial benefits to the Commonwealth and society as a whole as it makes an urgent transition away from dirty, climate-altering fossil fuels to a clean energy economy. When built, this 800 MW project is expected to provide enough electricity to power approximately 400,000 homes.<sup>1</sup>

It is a pivotal moment in America's nascent offshore wind story, with states along the coast currently mobilizing to tap into this booming global industry and harness the abundant, clean energy available off their shores. As Massachusetts sets bold goals to transition from polluting fossil fuels to a clean energy economy, offshore wind provides a tremendous opportunity to fight climate change, reduce local and regional air pollution, and grow a new industry that supports thousands of well-paying jobs in both coastal and inland communities. States from Massachusetts to Virginia have collectively committed to developing approximately 15 gigawatts of offshore wind power over the next 10-15 years, and this number is expected to increase.<sup>2</sup>

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<sup>1</sup> See [www.vineyardwind.com](http://www.vineyardwind.com).

<sup>2</sup> Gilman, P., Maurer, B., Feinberg, L., Duerr, A., Peterson, L., Musial, W., Beiter, P., Golladay, J., Stromberg, J., Johnson, I., Boren, D., and Moore, A. T. "National Offshore Wind Strategy: Facilitating the Development of the Offshore Wind Industry in the United States." U.S. Department of Energy and U.S. Department of the Interior. doi:10.2172/1325403. <https://www.osti.gov/servlets/purl/1325403>; McClellan, S. "Building America's Regional Offshore Wind Powerhouses – 10 GWs & Counting." Renewable Energy World. September 2018. Accessed January 21, 2018, available at <https://www.renewableenergyworld.com/articles/2018/09/building-americas-regional-offshore-wind-powerhouses-10-gws-counting.html>.

Against this backdrop of unprecedented momentum, it is critical that all offshore wind development activities move forward with strong protections for coastal and marine habitat and wildlife in place every step of the way. We can and must develop this resource thoughtfully and responsibly, using science-based measures to avoid, minimize, and mitigate impacts on valuable and vulnerable wildlife. This must include a specific focus on ensuring sufficient measures are in place to protect our most threatened and endangered species.

As described in these comments, Vineyard Wind has made a landmark set of commitments to ensure the Project is built and operated in a way that is consistent with protection of the highly endangered North Atlantic right whale. We congratulate Vineyard Wind for these commitments, which set an important precedent for the other commercial-scale offshore wind projects that are also moving forward and for U.S. offshore wind development as a whole. While our final view of the Project will await our assessment of the final environmental reviews by state and federal agencies, we commend Vineyard Wind for its leadership in protecting right whales and enthusiastically look forward to seeing the Project advance through the final stages of the review process.

## **I. Vineyard Wind's Historic Commitment to Right Whale Protection**

On January 22, 2019, Vineyard Wind signed a landmark agreement with NRDC, NWF, and CLF to deploy additional mitigation measures to protect the North Atlantic right whale during activities pertaining to the Project's construction and operations. The Vineyard Wind - NGO agreement dated January 22, 2019, attached as Attachment A (Agreement), is the result of an extensive, collaborative effort informed by input from leading North Atlantic right whale scientific experts. The parties came together voluntarily to address these issues in order to advance their mutual interest in the sustainable development of offshore wind energy.

The measures set forth in the Agreement reflect the commitment of Vineyard Wind to undertake steps, beyond the state and federal government's current requirements, that provide additional protections for the North Atlantic right whale. The intent of the Agreement is to minimize the disruption of normal feeding, breeding, and migratory behaviors and prevent injury or mortality to right whales. Vineyard Wind has committed to mitigation measures that aim to lower risk from injury to a level approaching zero and to reduce other effects caused by marine noise. It is our expectation that the mitigation measures included in the agreement will meet these goals.

### **The mitigation measures agreed to by the parties include:**

1. A seasonal prohibition on pile driving activities from January 1<sup>st</sup> through April 30<sup>th</sup>, the period when North Atlantic right whales are most likely to be present in the Project Area;
2. Enhanced mitigation protocols for pile driving from November 1<sup>st</sup> through December 30<sup>th</sup> and from May 1<sup>st</sup> through May 14<sup>th</sup>, and for geophysical survey activities from January 1<sup>st</sup> through May 14<sup>th</sup>, to reflect times of likely presence of North Atlantic right whales. Enhanced mitigation protocols include, but are not limited to, restrictions on initiating pile driving at night or during periods of poor visibility and the establishment of a 10,000

meter clearance zone during pile driving that will be monitored by real-time passive acoustics, visual observers, and, in early May, aerial surveys;

3. Comprehensive monitoring protocols during the construction window (*i.e.*, May 15<sup>th</sup> through October 31<sup>st</sup>), including, but not limited to, a restriction on initiating pile driving at night or during periods of poor visibility and the establishment of a minimum 1,000 meter clearance zone that will be monitored by real-time passive acoustics and visual observers;
4. A vessel speed restriction of ten knots for all Project-associated vessels, with the exception of crew transfer vessels, from November 1<sup>st</sup> through May 14<sup>th</sup> and within Dynamic Management Areas designated by the National Marine Fisheries Service (NMFS). Additional monitoring measures are required of crew transfer vessels during the same time periods, including real-time passive acoustics, visual observers, and aerial surveys within Dynamic Management Areas;
5. Timely reporting of North Atlantic right whale sightings to the National Marine Fisheries Service or the Coast Guard within two hours of occurrence when feasible;
6. Underwater noise reduction measures to reduce sound levels by a target of 12 dB; and
7. A commitment to consider other mitigation approaches aimed at overall species protection.

In addition, Vineyard Wind has made a \$3 million commitment to develop and deploy technologies to help ensure heightened protections for North Atlantic right whales and other marine mammals as the U.S. offshore wind industry continues to grow.<sup>3</sup>

As described below, we urge the Commonwealth to incorporate the mitigation measures detailed in Attachment A into the Certificate of the Secretary of Energy and Environmental Affairs on the Final Environmental Impact Report (Secretary's Certificate) and factor these measures into the agency's environmental assessment of potential impacts and evaluations of mitigation measures for other protected and endangered species.

## **II. Comments on the Project FEIR**

The Commonwealth must meet its obligations under the Massachusetts Environmental Protection Act (MEPA) to prepare a final Environmental Impact Report (FEIR) that ensures that the Project will minimize damage to the Commonwealth's natural resources.<sup>4</sup> The FEIR is designed to provide state agencies with adequate information for making permitting and funding decisions and to ensure that environmental damages are minimized and mitigated.

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<sup>3</sup> See <https://www.vineyardwind.com/winwithwind/>.

<sup>4</sup> See G.L. c. 30, § 61 ("All agencies, departments, boards, commissions and authorities of the commonwealth shall review, evaluate, and determine the impact on the natural environment of all works, projects or activities conducted by them and shall use all practicable means and measures to minimize damage to the environment.").

As stated in the FEIR, the Project will require a Section 401 Water Quality Certification (WQC), a Chapter 91 (c. 91) License, and Approval of Easement pursuant to 310 CMR 22.00 from the Massachusetts Department of Environmental Protection (MassDEP); review under the Massachusetts Endangered Species Act (MESA) by NHESP; review under the OMP and Ocean Sanctuaries Act; a Non-Vehicular Access Permit, Road Crossing Permits, and a Rail Division Use and Occupancy License from the Massachusetts Department of Transportation (Mass DOT); and Approval under MGL Chapter 164 Sections 69J and 72, and Chapter 40A Section 3 Zoning Exemption from the Energy Facility Siting Board (EFSB) and DPU. The Project also requires a Federal Consistency review by the Massachusetts Office of Coastal Zone Management (CZM). We note that in the FEIR, the Massachusetts CZM Federal Consistency approval was not listed in the list of permits in Table 1-2 (pp. 1-20 to 1-23).

**Our specific comments on the FEIR are as follows:**

- 1. The Secretary's Certificate should update the marine mammal mitigation provisions in Sections 4.1 and 5.2 (specifically Table 5.1: Summary of Impacts and Mitigation Measures) to reflect Vineyard Wind's new commitments to North Atlantic right whale mitigation contained in Attachment A.*

As the Secretary is aware, the conservation status of the North Atlantic right whale is dire. Recent scientific analysis confirms that the species has been declining since 2010 and only approximately 411 individuals were estimated to remain at the end of 2017.<sup>5</sup> Three more animals were found dead in 2018. Overall, at least 20 North Atlantic right whales are known to have been killed in the last two years, leading the National Marine Fisheries Service (NMFS) to declare the species is experiencing an Unusual Mortality Event (UME).<sup>6</sup> Only approximately 100 breeding females remain and, concerning, females are more negatively impacted by stressors than males, now surviving to only 30-40 years of age with an extended inter-calf interval of approximately ten years.<sup>7</sup> To our knowledge, no calves were born in the 2017-2018 calving season<sup>8</sup> and only three calves have been sighted so far in the 2018-2019 season.<sup>9</sup> While these three calves offer an emblem of hope, they will not offset the number of right whales currently being lost. It is imperative that all potential stressors acting on this species be minimized and mitigated to the full extent practicable in order to ensure its survival.

The North Atlantic right whale is listed as “endangered” under the federal Endangered Species Act of 1973 (ESA), 16 U.S.C. § 1531 et seq., as well as the Massachusetts Endangered Species Act (MESA), M.G.L. c. 131A. The Commonwealth must meet its obligations under the Massachusetts Environmental Protection Act (MEPA) to prepare an Environmental Impact

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<sup>5</sup> See Anderson Cabot Center for Marine Life, “Right whale consortium releases 2018 Report Card update.” Accessed January 18, 2019, available at: <https://www.andersoncabotcenterforoceanolife.org/blog/2018-right-whale-report-card/>.

<sup>6</sup> NOAA-NMFS, “North Atlantic right whale Unusual Mortality Event.” Accessed January 18, 2019, <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2018-north-atlantic-right-whale-unusual-mortality-event>.

<sup>7</sup> Moore, M. J. (2019). How can we all stop killing whales: a proposal to avoid whale entanglement in fishing gear. ICES Journal of Marine Science, 1-6, doi:10.1093/icesjms/fsy194.

<sup>8</sup> *Id.*

<sup>9</sup> See <https://www.cbc.ca/news/canada/new-brunswick/third-right-whale-calf-spotted-1.4984202>.

Report (EIR) that ensures that the Project will minimize damage to the Commonwealth's natural resources.<sup>10</sup> The Commonwealth must also meet its obligations under the Massachusetts Ocean Act of 2008 to ensure that "all certificates, licenses, permits and approvals for any proposed structures, uses or activities" are "consistent, to the maximum extent practicable, with the plan." See Chapter 114 of the Acts of 2008 – An Act Relative to Oceans. The Commonwealth must also meet its obligations under the Coastal Zone Management Act of 1972, 16 U.S.C. § 1451 et seq., when it completes its federal consistency review. Id. at § 1456.

There are a number of potential impacts to North Atlantic right whales associated with offshore wind energy development and operation, most notably potential injury and disruption of normal feeding, breeding, and migratory behaviors due to pre-construction and construction noise and heightened collision risk from construction and service vessels. The potential impacts to right whales of offshore wind development led five of the leading scientific experts on North Atlantic right whales to send a letter to the Bureau of Ocean Energy Management (BOEM) and the National Oceanic and Atmospheric Administration (NOAA) on September 19, 2018 with their recommendations for "adequate and effective mitigation of impacts to the North Atlantic right whale during offshore wind development and operations." In this letter, included as Attachment B, the scientists recommend a detailed package of mitigation measures including a seasonal prohibition on pile driving, vessel speed restrictions, monitoring, and the employment of noise attenuation technologies.

As described above in Section I, on January 22, 2019, Vineyard Wind signed an historic agreement with NRDC, NWF, and CLF to deploy additional mitigation measures to protect the North Atlantic right whale during activities pertaining to the Project's construction and operations. We strongly recommend that the Secretary incorporate all planned mitigation measures described above in Section I and included in Attachment A into the Final EIR to provide a more accurate description of Vineyard Wind's commitment to implementing extensive mitigation to protect North Atlantic right whales. These mitigation measures may also lead to enhanced protection for other marine mammals in the project area.

*2. The Secretary's Certificate should support the Preferred Route of Covell's Beach as the preferred landfall for the offshore export cable.*

Our organizations have a strong preference for the offshore export cable landfall at the Covell's Beach location, now identified in the FEIR as the Preferred Route. This location and the use of horizontal directional drilling (HDD) technology will result in fewer impacts and risks to winter flounder spawning areas, horseshoe crabs, and other benthic resources as compared to the New Hampshire Avenue Route, listed as the Notice Alternative Route, that runs through Lewis Bay. HDD will help to avoid disturbance of the nearshore area, tidal zone, beach, and coastal dunes.<sup>11</sup>

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<sup>10</sup> See G.L. c. 30, § 61 ("All agencies, departments, boards, commissions and authorities of the commonwealth shall review, evaluate, and determine the impact on the natural environment of all works, projects or activities conducted by them and shall use all practicable means and measures to minimize damage to the environment.").

<sup>11</sup> It is our understanding that the Covell's Beach landfall (Preferred Route) is the preferred cable landing site for the Project and that the company signed a Host Community Agreement with the Town of Barnstable in October 2018 indicating its intention to land the cable at Covell's Beach and detailing various measures to minimize impacts to the Town of Barnstable. See <https://www.southcoasttoday.com/news/20181004/vineyard-wind-barnstable-officials-sign-agreement-on-cable-project>.

Horseshoe crabs are of particular concern because of their declining abundance in New England.<sup>12</sup> Because horseshoe crabs use Covell's Beach as a spawning site, we believe that additional protective measures are warranted, including the use of HDD,<sup>13</sup> to avoid disruption of horseshoe crab spawning activities.

We also note that the surveys by Vineyard Wind recently identified patches of eelgrass near Spindle Rock. Eelgrass, an important nursery habitat for a variety of marine species, is a declining species in Massachusetts. Eelgrass near Spindle Rock should be avoided by realigning the cable at an angle as it approaches Covell's Beach.

We also note that the Project will take place in Essential Fish Habitat designated for many fish and shellfish species including a number of depleted and overfished populations such as Atlantic cod, winter flounder, Atlantic wolffish, and yellowtail flounder. There are also four species listed under the U.S. Endangered Species Act (ESA) present in the Project Area, including Atlantic salmon, Atlantic sturgeon, shortnose sturgeon, and giant manta ray.<sup>14</sup> As a general matter and to ensure minimal impact on Essential Fish Habitat species and those listed under the ESA, we recommend that Vineyard Wind work closely with the Massachusetts Division of Marine Fisheries (DMF) and NMFS to consider and implement appropriate mitigation measures to avoid, minimize, and mitigate potential adverse impacts to Essential Fish Habitat, fish and invertebrate populations which may be affected by construction activities particularly during vulnerable times of spawning, larval settlement, and juvenile development. We note that DMF has indicated that cable-laying in July and August instead of April and May avoids a more sensitive time of year for a wide array of natural resources that are actively reproducing and settling in the springtime in Nantucket Sound. We encourage Vineyard Wind to continue their ongoing discussions about appropriate time of year considerations, noting Vineyard Wind's need for safe operational conditions for cable-laying vessels and the need to complete the project by May-June of 2021 so that power can be delivered by January 2022.

*3. The Secretary's Certificate should recognize the benefits of Vineyard Wind's Agreement on Right Whale Core Habitat.*

The FEIR states that the project will not impact Core Habitat of the North Atlantic right whale, defined as a Special, Sensitive and Unique area (SSU) in the Massachusetts Ocean Plan<sup>15</sup> (see, for example, pages 1-81, 1-84, 2-1, 5-2). We appreciate that the Vineyard Wind Project avoids construction directly in the right whale Core Habitat SSU. We note, however, that activities that occur outside of the Core Habitat can impact North Atlantic right whales that may be in the Core Habitat SSU. Implementation of the mitigation measures contained in Attachment A, will help

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<sup>12</sup> 2018 Review of the Atlantic States Marine Fisheries Commission Fishery Management Plan for Horseshoe Crab (*Limulus polyphemus*), 2017 Fishing Year. Available at: [http://www.asmfc.org/uploads/file/5c06e2c9HSC\\_FMPReview\\_2018.pdf](http://www.asmfc.org/uploads/file/5c06e2c9HSC_FMPReview_2018.pdf).

<sup>13</sup> It is our understanding that the Massachusetts Division of Marine Fisheries (MA DMF) has determined that the use of HDD for landfall at Covell's Beach "should avoid any disturbance to horseshoe crab spawning habitat." See the letter from MA DMF in the Massachusetts Final Environmental Impact Review, p. 199, available at <https://vineyardwind.app.box.com/s/9mg2zp4nuy80cf8pdld1dw08ku8deh6>.

<sup>14</sup> DEIS, Appendix B, Table B.5-2, pp. B-15 – B-16.

<sup>15</sup> Available at <https://www.mass.gov/service-details/massachusetts-ocean-management-plan>.

protect right whales that may be in the Core Habitat through speed restrictions and enhanced monitoring and thus provide increased protection of the Core Habitat SSU.

4. *The Secretary's Certificate should recognize Vineyard Wind's ongoing need to work with state agencies to refine the offshore cable alignment to avoid Hard/Complex Seafloor.*

Extensive benthic surveying has been undertaken by Vineyard Wind to map benthic habitat within the proposed cable corridors, and in particular, to update the information on hard/complex seafloor habitat which is identified in the Massachusetts Ocean Plan as an SSU. Hard/complex seafloor habitat supports a diversity of marine life including sea anemones, sponges, and bryozoans that are important habitat for a number of fish species. The rocks, boulders and cobble seafloor found in this type of habitat provide places to hide from predation and structure for successful reproduction for many species including Atlantic cod, Atlantic wolffish and lobster, among others.<sup>16</sup> We encourage Vineyard Wind to continue to work with state agencies to further refine as feasible the cable alignment within the identified export cable corridors to avoid and minimize impact to this particularly important habitat.

5. *The Secretary's Certificate should include provisions for long-term monitoring before, during, and after construction to document changes to the marine environment and its ecological communities in and around the Project Area.*

Given that the offshore wind energy industry is in its infancy in the Atlantic and much will be learned during the construction and operation of the Vineyard Wind wind energy facility including the wind turbines and offshore export cable, a comprehensive monitoring effort is needed. As a general matter long-term monitoring before, during, and after construction to document changes to the marine environment and its ecological communities in and around the full project Area, including the wind turbine area as well as the offshore export cable route, is critically important. If significant impacts are detected, Vineyard Wind should work with federal and state agencies as necessary, to design appropriate adaptive mitigation strategies to address impacts identified. The FEIR contains a Benthic Habitat Plan (FEIR Attachment D) which Vineyard Wind will implement to document disturbance and recovery of marine and benthic communities related to the construction and installation of the Project. Pre- and post-construction monitoring surveys will be conducted. We understand that Vineyard Wind will work with state and federal agencies to conduct pre- and post-monitoring surveys of fisheries resources, and we encourage this action. As part of its recent Agreement with NGOs, Vineyard Wind has also committed funding to advancing understanding of the effects of offshore wind development on marine and coastal resources, the effectiveness of mitigation measures, and strategies to reduce other stressors facing affected species, such as the North Atlantic right whale (see Attachment A). Data gathered from these monitoring studies should be made publicly available and, as appropriate, incorporated into the Massachusetts Ocean Resource Information System<sup>17</sup> and the Northeast Ocean Data Portal.<sup>18</sup>

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<sup>16</sup> Massachusetts Ocean Plan Baseline Assessment. December 2009. Massachusetts Office of Coastal Zone Management. Available at <https://eeaonline.eea.state.ma.us/EEA/eeawebsite/mop/final-v2/v2-complete.pdf>.

<sup>17</sup> Available at <https://www.mass.gov/service-details/massachusetts-ocean-resource-information-system-moris>.

<sup>18</sup> Available at <https://www.northeastoceandata.org/>.

6. *The Secretary's Certificate must include consideration of the full scope of impacts to state and federally protected birds.*

The Secretary's Certificate must address the full range of potential impacts on all bird species known to forage and rest in state and/or federal waters in or near the Project Area, or to migrate through the area, including those species protected under the MESA, federal Migratory Bird Treaty Act (MBTA) and the ESA.

We are aware that the Department of the Interior (DOI) and the U.S. Fish and Wildlife Service (FWS) are now relying on a new interpretation of the MBTA that limits the scope of the Act to the purposeful take of birds. Our organizations strongly oppose this interpretation as contrary to the plain MBTA responsibilities as all previous administrations have done in the past, with explicit recognition that incidental take is prohibited. This would also be consistent with the memorandum of understanding that BOEM signed with FWS in 2009 to protect migratory bird populations.<sup>19</sup> We note that NRDC and several other organizations and states, have challenged DOI's unlawful reinterpretation of the Migratory Bird Treaty Act in court.

The Secretary's Certificate should take care to ensure that all bird species covered by MESA and the MBTA are accounted for in the impact assessment. All Massachusetts bird species are protected and the statement that jaegers and gulls are not species of conservation concern is incorrect.

7. *The Executive Office of Energy and Environmental Affairs should coordinate with BOEM to advance further monitoring measures to account for avian survey flaws.*

Given that existing survey efforts do not appear to have adequately captured avian use of the Project Area, the Executive Office of Energy and Environmental Affairs (EEA) should coordinate with BOEM to adopt a conservative approach in any Project avian impact analyses. Modeling issues stemming from recent survey efforts must be addressed. For example, BOEM's recent aerial surveys off the Massachusetts coastline aggregated many medium-sized tern sightings into a shared "tern species" category, which cannot be parsed out to provide detail on the number of endangered roseate terns.<sup>20</sup> Further, the Marine-Life Data and Analysis Team predictive models, while excellent for estimating broad-scale, relative patterns of avian abundance along the Atlantic, are not suitable for estimating range and abundance for a rare and narrowly distributed species like the state and federally listed roseate tern.<sup>21</sup> As a result, when

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<sup>19</sup> Memorandum of Understanding Between the Department of the Interior U.S. Minerals Management Service and the Department of the Interior U.S. Fish and Wildlife Service Regarding Implementation of Executive Order 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds" (Jun. 4, 2009).

[https://www.boem.gov/Renewable-Energy-Program/MMS-FWS\\_MBTA\\_MOU\\_6-4-09-pdf.aspx](https://www.boem.gov/Renewable-Energy-Program/MMS-FWS_MBTA_MOU_6-4-09-pdf.aspx).

<sup>20</sup> Veit, R., White, T., Perkins, S., Curley, S. 2016. Abundance and Distribution of Seabirds off Southeastern Massachusetts, 2011-2015: Final Report. OCS Study BOEM 2016-067. Sterling, Virginia: U.S. Department of the Interior, Bureau of Ocean Energy Management.

<sup>21</sup> Curtice C., Cleary J., Shumchenia E., Halpin P.N. 2018. Marine-life Data and Analysis Team (MDAT) technical report on the methods and development of marine-life data to support regional ocean planning and management. Prepared on behalf of the Marine-life Data and Analysis Team (MDAT). Accessed at: <http://seamap.env.duke.edu/models/MDAT/MDAT-Technical-Report.pdf>.

these and other data deficiencies<sup>22</sup> are factored into BOEM's impact model, roseate tern presence is likely to be underestimated. The core of the roseate tern's breeding range, which overlaps the Project Area, is small<sup>23</sup> and so a conservative approach for this species and others that may be impacted by these surveys should be taken.

In addition to better accounting for potential avian impacts, EEA and BOEM, in partnership with Vineyard Wind and in consultation with the State of Rhode Island, should require long-term project monitoring before, during, and after construction for state and federally listed endangered species like roseate terns, red knots; along with others with a suspected high collision risk, such as shearwaters and jaegers, and incorporate adaptive management measures to address impacts, as needed.

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In conclusion, we reiterate our support for responsibly developed offshore wind power and applaud the Commonwealth's actions to date to advance this important climate and clean energy solution. We look forward to working together to ensure that all projects built to meet the Commonwealth's goals are developed responsibly with strong protections in place for our most vulnerable coastal and marine wildlife.

Sincerely,

Priscilla M. Brooks, Ph.D.  
Vice President and Director of Ocean Conservation  
**Conservation Law Foundation**

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

Catherine Bowes  
Program Director, Offshore Wind Energy  
**National Wildlife Federation**

Jack Clark  
Director of Public Policy and Public Relations  
**Mass Audubon**

Eric Wilkinson  
General Counsel and Director of Energy Policy  
**Environmental League of Massachusetts**

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<sup>22</sup> The BRI spring tern surveys failed to identify any roseate terns, though of the total of 23 terns found 22% were unidentified and a high proportion of unidentified terns (86%) were noted in transit surveys to and from the lease area. The unpublished nanotag study did not include MOTUS receivers within the area, potentially skewing data results.

<sup>23</sup> Nisbet. I.C.T., M. Gochfeld, and J. Burger. "Roseate Tern (*Sterna dougallii*)." In *The Birds of North America*, version 2.0. A. F. Poole, Ed. Ithaca: Cornell Lab of Ornithology, 2014.



# ATTACHMENT A



**Vineyard Wind – NGO Agreement**  
**January 22, 2019**

This Agreement dated as of January 22, 2019, is made by and between VINEYARD WIND, LLC (“Vineyard Wind”), which has its principal place of business at Suite 510, Bank Plaza, 700 Pleasant Street, New Bedford, MA 02740, the NATIONAL WILDLIFE FEDERATION, the NATURAL RESOURCES DEFENSE COUNCIL, and the CONSERVATION LAW FOUNDATION (the “NGOs”) (collectively the “Parties”).

WHEREAS, the Parties are united in the belief that responsibly developed offshore wind power has a major role to play in America’s energy future;

WHEREAS, the Parties recognize that wind energy does not have the negative climate effects of carbon emissions from other generation sources, and wind power thus helps to ameliorate impacts like ocean acidification, loss of sea ice, sea level rise, more extreme weather, and many other climate effects;

WHEREAS, the Parties are committed to working together to ensure that the development of much-needed wind electricity generation capacity off the nation’s coasts will occur in a manner that avoids, minimizes, and mitigates adverse impacts on the health of our coastal and marine wildlife;

WHEREAS, the development of offshore wind energy provides a unique opportunity for offshore wind developers to collaborate with academic research institutions, government, environmental organizations, ocean user groups and other stakeholders to advance scientific research that enhances protections for the critically endangered North Atlantic right whale, including research on the effects, if any, of wind farm operations on right whale distribution and habitat use;

WHEREAS, Vineyard Wind is committed to developing offshore wind power projects in the U.S. with robust standards of environmental protection during pre-development, construction, and operations and maintenance activities, while making a meaningful contribution to science that can support the responsible development of America’s vast offshore wind resources;

WHEREAS, the protection of the North Atlantic right whale is a top priority, the Parties recognize and agree that protective actions set forth herein must be done in a manner that ensures human health and safety when working in the offshore environment;

January 22, 2019

WHEREAS, while this Agreement pertains to protections for the North Atlantic right whale specifically, the Parties agree that the measures set forth herein may also provide additional protections to other marine mammals and protected species;

WHEREAS, this agreement is intended to serve as a model for similar agreements pertaining to offshore wind projects along the East Coast;

WHEREAS, the Parties agree that the commitments made herein apply specifically and solely to Vineyard Wind's first 800 MW project located in the northern portion of the lease area OCS-A-501 (the "Project Area"), and as more fully described in the Construction and Operations Plan submitted to the Bureau of Ocean Energy Management ("BOEM") dated December 19, 2017, as supplemented thereafter (the "Project").

NOW THEREFORE, in consideration of the foregoing the Parties agree as follows:

**I. Protective Measures for North Atlantic Right Whales**

Vineyard Wind agrees to implement the following measures for responsible offshore wind development in constructing and operating the Project.

**A. Construction Activities**

**Table 1. Seasonal Restrictions on Pile Driving Activities**

Timeframe	Mitigation Protocol
<b>Red Period:</b> January 1 – April 30	No pile driving
<b>Yellow Period:</b> November 1 – December 31; May 1 – 14	Enhanced mitigation protocol required
<b>Green Period:</b> May 15 – October 31	Comprehensive monitoring / clearance zone protocol required

**1. Red Period: No Pile Driving**

During this period of most likely presence of North Atlantic right whales, as specified in Table 1, no pile driving shall occur.

**2. Yellow Period: Enhanced Mitigation Protocol for Pile Driving**

During the times of likely presence of North Atlantic right whales, as specified in Table 1, an Enhanced Mitigation Protocol will be implemented during each day that pile driving is scheduled to take place. This will include:

- a) Pile driving shall not be initiated at night or when the clearance zone cannot be visually monitored, as determined by the lead Protected Species Observer (hereafter, “PSO”)<sup>1</sup> on duty. Pile driving may continue after dark only if the action began during the day and must proceed for human safety or installation feasibility<sup>2</sup> reasons;
- b) A clearance zone for North Atlantic right whales shall extend 10,000 meters in all directions from the center of the pile. Pile driving activities shall not be initiated when there is either a visual observation or acoustic detection of one or more North Atlantic right whales within the clearance zone through (i.), (ii.), or (iii.) of this section, and shall be shut-down under either of these circumstances unless it must proceed for human safety or installation feasibility reasons.
  - i. Real-time passive acoustic monitoring (“PAM”)<sup>3</sup>, assuming a detection range of 10,000 meters, shall be undertaken from a vessel other than a pile driving vessel, or from a stationary unit, to avoid the hydrophone being masked by the pile driving vessel or development-related noise and to ensure that the clearance zone is clear of North Atlantic right whales. PAM shall begin at least 60 minutes prior to commencement of pile driving and shall be conducted throughout the time of pile driving activity; and
  - ii. There shall be vessel-based PSOs stationed at the pile driving site. There shall be a minimum of four PSOs following a two-on, two-off rotation, each responsible for scanning no more than 180° per pile driving event. Observation shall begin at least 60 minutes prior to the commencement of pile driving and shall be conducted throughout the time of pile driving activity; and
  - iii. Between May 1 – 14, a track-line survey fully covering the clearance zone to detect the presence of North Atlantic right whales must be completed prior to commencement of pile driving using at least one of the following methods:

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<sup>1</sup> PSO refers to an individual with current National Marine Fisheries Service (“NMFS”) certification as a Protected Species Observer.

<sup>2</sup> Installation feasibility refers to ensuring that the pile installation event results in a usable foundation for the wind turbine (e.g., installed to the target penetration depth without refusal and with a horizontal foundation/tower interface flange). In the instance where pile driving is already started and a PSO recommends pile driving be halted, the lead engineer on duty will evaluate the following: 1) Use the site-specific soil data and the real-time hammer log information to judge whether a stoppage would risk causing piling refusal at re-start of piling; and 2) Check that the pile penetration is deep enough to secure pile stability in the interim situation, taking into account weather statistics for the relevant season and the current weather forecast. Determinations by the lead engineer on duty will be made for each pile as the installation progresses and not for the site as a whole. This information will be included in the reporting for the Project.

<sup>3</sup> Throughout this agreement “PAM” refers to a real-time passive acoustic monitoring system, with equipment bandwidth sufficient to detect the presence of vocalizing North Atlantic right whales.

- An aerial survey, weather permitting (based on safe flying conditions), conducted once the lead aerial observer<sup>4</sup> determines adequate visibility based on standardized environmental parameters (*e.g.*, glare, sea state, wind speed, etc.); or
  - A vessel-based survey carried out by PSOs conducted during daylight hours.
- c) Pile driving may resume upon confirmation that all North Atlantic right whales have departed the clearance zone:
- i. May 1 – 14: after one day of monitoring using methods described in (b.i.), (b.ii.), and (b.iii.) of this section.
  - ii. November 1 – December 31: methods listed under (b.i.) and (b.ii.) of this section may be used by the lead PSO on duty to confirm that the whales have departed the 10,000 meter zone; if so, piling may commence following observance of the clearance zone monitoring protocol described in (b.i.) and (b.ii.).

### **3. Green Period: Comprehensive Monitoring / Clearance Zone Protocol for Pile Driving**

During this period of less likely presence of North Atlantic right whales, as specified in Table 1, a Comprehensive Monitoring / Clearance Zone Protocol will be implemented during each day that pile driving is scheduled to take place. This will include:

- a) Pile driving shall not be initiated at night or when the clearance zone cannot be visually monitored, as determined by the lead PSO on duty. Pile driving may continue after dark only if the action began during the day and must proceed for human safety or installation feasibility reasons; and
- b) A clearance zone for North Atlantic right whales shall extend a minimum of 1,000 meters in all directions from the center of the pile. Pile driving activities shall not be initiated when there is either the visual observation or acoustic detection of one or more North Atlantic right whales within the clearance zone through (i.) and (ii.) of this section and shall be shut down under either of these circumstances unless it must proceed for human safety or installation feasibility reasons. If a shut-down is implemented, pile driving may resume upon confirmation that all North Atlantic right whales have departed the clearance zone after 60 minutes of monitoring through (i.) and (ii.) of this section.

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<sup>4</sup> The lead aerial observer shall be selected from a roster of qualified lead aerial observers who are available for duty with 12 hours' notice. This roster to be provided by either the New England Aquarium, the Center for Coastal Studies, National Oceanic and Atmospheric Administration ("NOAA"), or other organizations recommended by the organizations listed in this sentence. The Project will use only observers from this roster to the extent they are available at the time needed to perform the monitoring.

- i. Real-time PAM will be implemented at least 60 minutes prior to pile driving. PAM will be undertaken from a vessel other than the pile driving vessel, or from a stationary unit, to avoid the hydrophone being masked by the pile driving or other development-related noise; and
- ii. There shall be a minimum of four PSOs stationed at the pile driving site, following a two-on, two-off rotation, each responsible for scanning no more than 180° per pile driving event. Observation will begin at least 60 minutes prior to the commencement of pile driving and shall be conducted throughout the period of pile driving activity.

#### 4. Installation of Jacket Foundations

No more than two jacket foundations will be installed.

#### B. Geophysical Surveys During Construction and Post-Construction

This section does not refer to any geophysical surveys carried out as part of site assessment and characterization (“SAC”) stage of offshore wind development. The Parties believe further discussion is necessary to agree upon feasible protocols for SAC surveys that would allow Vineyard Wind to meet BOEM geophysical survey requirements.

**Table 2. Seasonal Restrictions on Geophysical Surveys During Construction and Post-Construction**

Timeframe	Mitigation Protocol
<b>Red Period:</b> January 1 – May 14	No geophysical surveys with RMS sound pressure levels > 180 dB re 1 uPa at 1 meter for equipment that operates between 7 Hz and 35 kHz unless with Enhanced Mitigation Protocol
<b>Green Period:</b> May 15 – December 31	Comprehensive monitoring / clearance zone protocol required

##### 1. Red Period: No Surveys or Surveys with Enhanced Mitigation Protocol

During this period, as specified in Table 2, no surveys with RMS sound pressure levels > 180 dB re 1 uPa at 1 meter for equipment that operates between 7 Hz and 35 kHz shall occur. An exception can be made for infrequent geophysical surveys that are essential during the construction and micro-siting of the Project to ensure proper installation or maintenance of the Project post-construction. In these instances, the following enhanced mitigation protocol shall be implemented:

- a) A clearance zone for North Atlantic right whales shall extend 1,000 meters in all directions from the survey vessel;

- b) Surveys shall not be initiated at night or when there is either a visual observation or an acoustic detection (confirmed by visual observation) of one or more North Atlantic right whales within the clearance zone and shall be shut down under either of these circumstances. After daylight hours, surveys shall be shut down following an acoustic detection only. Observation and PAM shall begin at least 60 minutes prior to commencement of the survey and shall be conducted throughout the period of the survey activity. Surveying may resume upon confirmation that all North Atlantic right whales have departed the clearance zone after 60 minutes of both visual and acoustic monitoring; and
  - i. Real-time PAM shall be undertaken in a manner that avoids masking of the North Atlantic right whale vocalizations by vessel noise, including use of a system that is independent from the survey vessel if necessary; and
  - ii. There shall be a minimum of four PSOs following a two-on, two-off rotation, each responsible for scanning no more than 180°.
- c) Survey equipment will commence following a ramp-up procedure and will be operated at the lowest source level feasible to meet survey requirements.

## **2. Green Period: Comprehensive Monitoring / Clearance Zone Protocol for Surveys**

During this period, as specified in Table 2, a Comprehensive Monitoring/ Clearance Zone Protocol will be implemented during all surveys with RMS sound pressure levels > 180 dB re 1 uPa at 1 meter for equipment that operates between 7 Hz and 35 kHz. This will include:

- a) A clearance zone for North Atlantic right whales shall extend 500 meters in all directions from the survey vessel and, to the extent feasible, shall be extended to 1,000 meters;
- b) Surveys shall not be initiated when there is either a visual observation or an acoustic detection of one or more North Atlantic right whales within the clearance zone and shall be shut down under either of these circumstances. After daylight hours, surveys shall be shut down following an acoustic detection only. Visual and acoustic surveys shall begin at least 30 minutes prior to commencement of survey activity and shall be conducted throughout the period of the activity. Surveying may resume upon confirmation that all North Atlantic right whales have departed the clearance zone after 30 minutes of visual or acoustic monitoring; and
  - i. Real-time PAM shall be undertaken in a manner that avoids masking of the North Atlantic right whale vocalizations by vessel noise, including use of a system that is independent from the survey vessel if necessary; and

- ii. The clearance zone shall be monitored by at least one PSO and at least two PSOs if feasible.
- c) Survey equipment will commence following a ramp-up procedure and will be operated at the lowest source level feasible to meet survey requirements.

### **C. Vessel Speed Restrictions**

All Project-associated vessels shall adhere to the following speed restrictions:

1. A mandatory speed restriction of 10 knots shall be observed within Dynamic Management Areas (“DMAs”) established by National Oceanic and Atmospheric Administration (“NOAA”) Fisheries, with the exception of crew transfer vessels.<sup>5</sup>
2. A mandatory speed restriction of 10 knots shall be observed within DMAs established by NOAA Fisheries by crew transfer vessels, unless the following procedures result in confirmation that the North Atlantic right whales are clear of the transit route and Project Area for two consecutive days:
  - (a) Vessel based surveys carried out by PSOs conducted during daylight hours and real-time PAM shall be undertaken, in a manner that avoids masking of the North Atlantic right whale vocalizations by vessel noise; or
  - (b) An aerial survey, weather permitting (based on safe flying conditions), conducted once the lead aerial observer<sup>6</sup> determines adequate visibility based on standardized environmental parameters (*e.g.*, glare, sea state, wind speed, etc.) and real-time PAM shall be undertaken, when feasible, in a manner that avoids masking of the North Atlantic right whale vocalizations by vessel noise.

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<sup>5</sup> A crew transfer vessel is a vessel whose principle purpose is to transfer technicians who work offshore, and the supplies and small-scale components used by these technicians, to and from a port facility and their offshore work location.

<sup>6</sup> The lead aerial observer shall be selected from a roster of qualified lead aerial observers who are available for duty with 12 hours’ notice. This roster to be provided by either the New England Aquarium, the Center for Coastal Studies, NOAA, or other organizations recommended by the organizations listed in this sentence. The Project will use only observers from this roster to the extent they are available at the time needed to perform the monitoring.

- (c) Following clearance from C. 2. (a.) and (b.), vessel transits conducted within a DMA will employ at least two observers<sup>7</sup> aboard the vessel to visually monitor for North Atlantic right whales. If a North Atlantic right whale is spotted within or approaching the transit route, vessels shall operate at less than 10 knots until the procedures in C. 2. (a.) and (b.) result in clearance of the transit route for two consecutive days.

3. From November 1 through May 14:

- (a) A 10-knot speed restriction shall be observed by all vessels, with the exception of crew transfer vessels operating within and transiting to/from the lease area and vessels operating in Nantucket Sound (which has not been demonstrated by best available science to provide consistent habitat for North Atlantic right whales).
- (b) A 10-knot speed restriction shall be observed by crew transfer vessels operating within and transiting to/from the Project Area (except while in Nantucket Sound, which has not been demonstrated by best available science to provide consistent habitat for North Atlantic right whales) unless the following measures are in place:
  - i. At least one observer,<sup>8</sup> and two when personnel are available, aboard the vessel to visually monitor for North Atlantic right whales; and
  - ii. Real-time PAM shall be undertaken in a manner that avoids masking of the North Atlantic right whale vocalizations by vessel noise.
  - iii. If a North Atlantic right whale is detected as a result of the monitoring measures identified in (i.) and/or (ii.) of this section, a 10-knot speed restriction shall be in effect for the remainder of the day.
- (c) To the extent that a DMA occurs between November 1-May 14 the provisions in C. 1. and 2. apply.

**D. Reporting**

Vineyard Wind commits to report all visual observations and acoustic detections of vocalizing North Atlantic right whales to the National Marine Fisheries Service (“NMFS”) or the Coast Guard within two hours of occurrence when feasible and no later than the end of their shift.

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<sup>7</sup> During construction the observers shall be NMFS certified PSOs. During Project operations and maintenance, the observers shall have North Atlantic right whale observer training provided by a company utilized by NMFS for PSO training or recommended by the organizations listed in footnote 6. Two individuals shall be designated during each vessel trip to conduct monitoring.

<sup>8</sup> See footnote 7.

**E. Underwater Noise Reduction**

Vineyard Wind is committed to employing technically and commercially feasible noise reduction and attenuation measures that minimizes impacts to North Atlantic right whales and other high-priority species. Vineyard Wind will implement attenuation mitigation to reduce sound levels by a target of 12 dB. A noise attenuation technology will be implemented (*e.g.*, Noise Mitigation System [NMS], Hydro-sound Damper [HSD], Noise Abatement System [AdBm], bubble curtain, or similar), and a second back-up attenuation technology (*e.g.*, bubble curtain or similar) will be on-hand, to be used if needed given results of field verification. For the Project, Vineyard Wind will not request Level A takes of a North Atlantic Right Whale. Vineyard Wind will inform and receive input from the other Parties as it identifies noise attenuation measures and technologies to be used for the Project.

**F. Additional Mitigation Strategies**

In addition to the above measures designed to avoid and minimize impacts to North Atlantic right whales, Vineyard Wind commits to considering other mitigation approaches aimed at overall species protection.

**II. Commitment to Collaborative Science**

Vineyard Wind has made a \$3 million commitment to develop and deploy technologies that ensure heightened protections for North Atlantic right whales and other marine mammals as the U.S. offshore wind industry continues to grow. Vineyard Wind commits to implement the following principles when undertaking marine science and science-based conservation efforts:

- A.** Plan and conduct science and science-based conservation efforts in a collaborative and transparent manner, utilizing recognized marine experts, engaging relevant stakeholders, and making results publicly available;
- B.** Contribute to the field of marine science and make efforts to address the priorities defined by regional and state ocean planning efforts; and
- C.** Advance understanding of the effects of offshore wind development on marine and coastal resources, the effectiveness of mitigation measures (*e.g.*, noise attenuation, thermal detection), and strategies to reduce other stressors facing affected species (*e.g.*, incidental fishing gear entanglement reduction), such as the North Atlantic right whale.

**III. Inclusion of Protective Measures in Agency Submittals**

Where Vineyard Wind seeks state and federal authorizations to conduct Project activities that may potentially affect the North Atlantic right whale, Vineyard Wind agrees to propose mitigation strategies

consistent with the protective measures set forth herein as they relate to the activity for which authorization is sought. Vineyard Wind will also inform the relevant state and federal agencies of Vineyard Wind's voluntary commitments under this Agreement. To the extent that a state or federal agency declines to adopt, for regulatory purposes, a protective measure specified herein, Vineyard Wind will nevertheless implement the measure provided it does not conflict with regulatory requirements.

#### **IV. Modeling and Adaptive Management**

The intent of this agreement is to minimize disruption of normal feeding, breeding and migratory behaviors and prevent injury to right whales. The mitigation measures of this Agreement aim to lower risk from injury to a level approaching zero and to reduce other effects caused by marine noise significantly below that estimated in BOEM's December 2018 Draft Environmental Impact Statement ("DEIS") for Vineyard Wind. The Parties' expectation is that the mitigation measures included in this agreement will meet these goals. To confirm this before construction, Vineyard Wind agrees to re-run and share with the Parties its piling noise exposure model to incorporate the execution of mitigation measures in this Agreement and the Project parameters (*e.g.*, number of monopiles, number of jackets) planned to actually be built (as opposed to the permitting envelope analyzed in the DEIS). Should the revised modeling not demonstrate that impacts from construction are reduced to the levels described in this paragraph, the Parties will consider additional mitigation measures.

While this Agreement applies only to Vineyard Wind's 800 MW project located in the northern portion of the lease area OCS-A-501, the Parties recognize that Vineyard Wind intends to propose future projects. In a good faith effort to continue to work collaboratively and evaluate lessons learned from the Project subject to this Agreement, every two years, or if one of the Parties so requests, the Parties agree to review the scientific data on the occurrence, abundance, habitat use, and conservation status of North Atlantic right whales, particularly in the vicinity of the Project Area, along with any other relevant data, including information on new noise attenuation and monitoring technologies or practices that have become available. This review will inform future projects and agreements between the Parties. To the extent that new protective measures are identified relevant to this Project, Vineyard Wind agrees to evaluate their technical and commercial feasibility and implement them if appropriate.

#### **V. Dispute Resolution**


In the event of a dispute among the Parties concerning implementation of or compliance with any aspect of this Agreement, the initiating Party or Parties shall provide the other Party or Parties with a written notice outlining the nature of the dispute and the remedy that is sought. The Parties shall meet and confer, either in person or over the telephone, to work in good faith to attempt to resolve the dispute, including by modification of the agreement if all Parties agree. If agreement on the appropriate resolution of the dispute cannot be reached, the Parties reserve their right to withdraw from the agreement as a last resort.

**VI. Term of Agreement**

The Parties agree that the protective measures set forth herein will remain in place for five years unless extended or modified by mutual agreement of the Parties.

[SIGNATURE PAGE TO FOLLOW]


**Vineyard Wind, LLC**

By: 

Name: Erich Stephens  
Chief Development Officer

Date: January 22, 2019

**Natural Resources Defense Council**

By: 

Name: Katherine Kennedy  
Senior Director, Climate & Clean Energy  
Program

Date: January 22, 2019

**National Wildlife Federation**

By: 

Name: Collin O'Mara  
President & Chief Executive Officer

Date: January 22, 2019  
NWF ID: 1901-041

**Conservation Law Foundation**

By: 

Name: Priscilla Brooks, Ph.D.  
Vice President and Director of Ocean  
Conservation

Date: January 22, 2019

# ATTACHMENT B

September, 19<sup>th</sup>, 2018

Mr. James F. Bennett  
Chief of the Office of Renewable  
Energy Programs  
Bureau of Ocean Energy Management  
United States Department of the Interior  
1849 C Street, NW  
Washington D.C., 20240  
james.bennett@boem.gov

Ms. Donna Wieting  
Director, Office of Protected Resources  
National Marine Fisheries Service  
National Oceanic and Atmospheric  
Administration  
1315 East-West Hwy.  
Silver Spring, Maryland 20910  
donna.wieting@noaa.gov

Dear Mr. Bennett and Ms. Wieting,

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

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

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

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

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

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

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

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

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

Sincerely,

Scott Kraus, Ph.D.  
Vice President and Senior Science Advisor  
Chief Scientist, Marine Mammals  
Anderson-Cabot Center for Ocean Life  
New England Aquarium

Ester Quintana, Ph.D.  
Chief Scientist, Marine Mammal Surveys  
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Aaron Rice, Ph.D.  
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