



# MARINE MAMMAL COMMISSION

2 September 2020

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

Dear Ms. Harrison:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the application submitted by Ørsted Wind Power North America, LLC (Ørsted) under section 101(a)(5)(D) of the Marine Mammal Protection Act (the MMPA). Ørsted is seeking authorization to take small numbers of marine mammals by harassment incidental to high-resolution geophysical (HRG) surveys in coastal waters from New York to Massachusetts. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 10 August 2020 notice (85 Fed. Reg. 48179) requesting comments on its proposal to issue the authorization, subject to certain conditions.

Ørsted is proposing to conduct HRG surveys to characterize lease areas<sup>1</sup> and export cable routes in support of offshore wind energy projects. Ørsted would use sub-bottom profilers (including chirp, sparker, boomer, and parametric types), acoustic corers, and ultra-short baseline acoustic positioning systems during its HRG surveys. Based on the information provided in the *Federal Register* notice, it is reasonable to conclude that incidental taking of marine mammals could occur. However, as the Commission has pointed out in detail in previous letters regarding proposed authorizations for similar HRG survey activities<sup>2</sup>, NMFS continues to overestimate the size of the Level B harassment zones<sup>3</sup>. Regardless, Ørsted would be required by its BOEM leases to implement a 200-m or 500-m exclusion zone<sup>4</sup>, which would minimize the potential for marine mammals to be exposed to sound levels expected to result in taking. As such, the Commission believes that issuance of an incidental harassment authorization for the proposed activities is unnecessary.

Please contact me if you have questions.

Sincerely,

A handwritten signature in blue ink that reads "Peter O. Thomas".

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

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<sup>1</sup> Bureau of Ocean Energy Management (BOEM) lease numbers OCS-A 0486/0517, 0487, and 0500.

<sup>2</sup> See its [13 July 2020](#) (Equinor Wind, LLC), [6 July 2020](#) (Dominion Energy Virginia), [26 June 2020](#) (Mayflower Energy, LLC), [12 March 2020](#) (Vineyard Wind, LLC), [18 October 2019](#) (Skipjack Offshore Energy, LLC), [23 August 2019](#) (Ørsted Wind Power LLC), [6 July 2018](#) (Dominion Energy Virginia), and [13 June 2018](#) (Ørsted/Bay State Wind) letters.

<sup>3</sup> NMFS estimated the largest zone to be 141 m.

<sup>4</sup> For cetaceans/pinnipeds and North Atlantic right whales, respectively.

September 9, 2020

Ms. Donna Wieting  
Director, Office of Protected Resources  
National Marine Fisheries Service  
1315 East-West Hwy.  
Silver Spring, MD 20910

Ms. Jolie Harrison  
Division Chief, Permits and Conservation Division, Office of Protected Resources  
National Marine Fisheries Service  
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**RE: Failure to Adequately Protect Endangered and Protected Marine Mammals During Marine Site Characterization Surveys Required for Offshore Wind Development**

Dear Ms. Wieting and Ms. Harrison,

We are writing to express our profound concern regarding flaws in the incidental harassment authorizations (“IHAs”) issued by the National Marine Fisheries Service (“NMFS”) for marine site characterization surveys required for offshore wind development. 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. We are heartened to see that in some instances developers are going beyond sub-standard NMFS requirements to adopt more protective measures, but NMFS should require even stronger protections of all developers.

Since March 2018, our groups have submitted 12 comment letters to NMFS on proposed IHAs for marine site characterization surveys associated with 12 offshore wind Lease Areas and associated potential export cable route corridors from Massachusetts to North Carolina (*see* Attachment 1). In these letters, we consistently identified recurring flaws in NMFS’ incidental take analyses and recommended measures to mitigate and monitor potential impacts to endangered and protected marine mammals—actions critical to environmentally responsible offshore wind development. Despite our urging, NMFS has made no meaningful improvements to the IHAs issued; in fact, NMFS has weakened the required mitigation and monitoring measures over time. This trend is irresponsible in light of the worsening conservation status of a number of species, including the critically endangered North Atlantic right whale, and the significant increase in the number and geographic and temporal scale of marine site characterization surveys.

Here, we summarize our overarching concerns and necessary improvements, and request a meeting with you and your staff to discuss how NMFS should adjust its current IHA process to reflect requirements under the Marine Mammal Protection Act (“MMPA”).

In brief, NMFS must:

- A. Incorporate additional data sources into calculations of marine mammal density and take;
- B. Analyze cumulative impacts to North Atlantic right whales and other endangered and protected marine mammal species and stocks as part of the take estimation and permitting process;
- C. Not adjust take numbers downward for large whales based on unproven mitigation measures;
- D. Require mitigation measures that meet the least practicable adverse impact standard;
- E. Strengthen its vessel speed restrictions to mitigate the harm of increased vessel traffic; and
- F. Prohibit extensions of any one-year IHA through a truncated 15-day comment period as is contrary to the MMPA.

We also submit our recommendations for advancing monitoring and mitigation during offshore wind development.

## **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.”<sup>1</sup> 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.”<sup>2</sup> Congress intended for NMFS to act conservatively in the face of uncertainty when authorizing activities harmful to marine species.<sup>3</sup> 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.<sup>4</sup>

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.<sup>5</sup> 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.”<sup>6</sup>

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

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<sup>1</sup> 16 U.S.C. § 1361(1).

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

<sup>3</sup> H.R. Rep. No. 92-707 (Dec. 4, 1971), as reprinted in 1972 U.S.C.C.A.N. 4144, 4148.

<sup>4</sup> 16 U.S.C. § 1361(1), (3).

<sup>5</sup> *Id.* § 1362(13), 1371(a).

<sup>6</sup> *Id.* § 1362(18)(A).

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.”<sup>7</sup> 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.”<sup>8</sup> NMFS must also establish monitoring and reporting requirements.<sup>9</sup> 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.<sup>10</sup>

## II. The Status of Marine Mammals in the Northwestern Atlantic

The North Atlantic right whale is on a path to extinction. Although the species has been listed as endangered under the Endangered Species Act (“ESA”) for decades, recent scientific analysis confirms a population decline since 2010 due to entanglements in commercial fishing gear and vessel strikes.<sup>11</sup> In the wake of an alarming number of detected deaths of North Atlantic right whales in 2017, NMFS declared an Unusual Mortality Event (“UME”),<sup>12</sup> which devotes additional federal resources to determining and—if possible—mitigating the source of excessive mortality. This designation is still in effect. At least 31 animals are known to have been killed since 2017 and an additional ten whales have been documented with serious injuries they will not survive.<sup>13</sup> These 41 animals represent roughly ten percent of the population that now numbers approximately 400 individuals.<sup>14</sup> Moreover, these documented serious injuries and deaths only represent a small fraction of whales that are injured or killed by human activities.<sup>15</sup> Of great concern is that females are more negatively affected than males by the lethal and sublethal effects of human activity, surviving to only 30-40 years of age with an extended inter-calf interval of approximately ten years.<sup>16</sup> Calf survival is also severely diminished. Two of the ten calves born in the 2019/2020 calving season are already either confirmed or likely dead due to vessel strikes.<sup>17</sup> In 2019, North Atlantic right whales were listed as a NOAA “Species in the Spotlight” indicating that they

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<sup>7</sup> *Id.* § 1371(a)(5)(D)(i).

<sup>8</sup> *Id.* § 1371(a)(5)(D)(ii)(I).

<sup>9</sup> *Id.* § 1371(a)(5)(D)(iii).

<sup>10</sup> *Id.* § 1371(a)(5)(D)(iii).

<sup>11</sup> 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. and Couture, E.L., “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).

<sup>12</sup> NOAA-NMFS, “2017-2020 North Atlantic right whale Unusual Mortality Event.” Available at: <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2020-north-atlantic-right-whale-unusual-mortality-event>.

<sup>13</sup> The preliminary cumulative total number of animals in NMFS’ North Atlantic right whale Unusual Mortality Event has been updated to 41 individuals to include both the confirmed mortalities (dead stranded or floaters) (n=31) and seriously injured free-swimming whales (n=10) to better reflect the confirmed number of whales likely removed from the population during the UME and more accurately reflect the population impacts. *Id.*

<sup>14</sup> NOAA Fisheries, “North Atlantic right whale.” Available at: <https://www.fisheries.noaa.gov/species/north-atlantic-right-whale>.

<sup>15</sup> Sharp, S.M., et al., “Gross and histopathologic diagnoses from North Atlantic right whale *Eubalaena glacialis* mortalities between 2003 and 2018,” *supra* note 11.

<sup>16</sup> 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).

<sup>17</sup> NOAA-NMFS, “2017-2020 North Atlantic right whale Unusual Mortality Event,” *supra* note 12.

are one of nine marine species to be at greatest risk of extinction in the United States.<sup>18</sup> In July, 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.”<sup>19</sup>

Ongoing UMEs exist for other large whales. Alarming, 93 minke whales have stranded between Maine and South Carolina from January 2017 to September 2020 (data through September 1, 2020).<sup>20</sup> Elevated numbers of humpback whales have also been found stranded along the Atlantic Coast since January 2016 and, in a little over four years, 131 humpback whale mortalities have been recorded (data through September 1, 2020), with strandings occurring in every state along the East Coast.<sup>21</sup> NMFS’ declaration of these UMEs in the past few years for three large whale species for which anthropogenic impacts are a significant cause of mortality<sup>22</sup> demonstrates an increasing risk to whales from human activities along the East Coast.

In addition to endangered and protected large whales, the Western North Atlantic Southern Migratory Coastal stock of bottlenose dolphin is of concern. The stock is considered to be both strategic and depleted under the MMPA due to the number of annual human-caused mortalities and previous UMEs.<sup>23</sup>

We also note that the waters off Cape Hatteras, North Carolina, have the highest marine mammal biodiversity of any area along the East Coast, and compare favorably to other locations internationally renowned for their diversity of species, including waters off Northwest Spain, New Zealand, and South Africa.<sup>24</sup> Nine families and 34 species (29 cetaceans, 4 pinnipeds, and 1 manatee) were recorded for the entire coast of North Carolina in a recent study.<sup>25</sup> In addition to the diversity of species, marine mammals also occur at unusually high densities off Cape Hatteras compared to other areas along the East Coast.<sup>26</sup> In

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<sup>18</sup> NOAA-NMFS, “North Atlantic right whale – In the Spotlight.” Available at: <https://www.fisheries.noaa.gov/species/north-atlantic-right-whale#spotlight>.

<sup>19</sup> 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>.

<sup>20</sup> NOAA-NMFS, “2017-2020 Minke whale Unusual Mortality Event along the Atlantic Coast.” Available at: [https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2020-minke-whale-unusual-mortality-event-along-atlantic-coast#:~:text=While%20minke%20whales%20are%20protected,Unusual%20Mortality%20Event%20\(UME\)](https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2020-minke-whale-unusual-mortality-event-along-atlantic-coast#:~:text=While%20minke%20whales%20are%20protected,Unusual%20Mortality%20Event%20(UME)).

<sup>21</sup> NOAA-NMFS, “2016-2020 Humpback whale Unusual Mortality Event along the Atlantic Coast.” Available at: <https://www.fisheries.noaa.gov/national/marine-life-distress/2016-2020-humpback-whale-unusual-mortality-event-along-atlantic-coast>.

<sup>22</sup> *Id.*; NOAA-NMFS, “2017-2020 North Atlantic right whale Unusual Mortality Event,” *supra* note 12; NOAA-NMFS, “2017-2020 Minke whale Unusual Mortality Event along the Atlantic Coast,” *supra* note 20.

<sup>23</sup> Hayes, S.A., et al., “U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments – 2017,” *NOAA Technical Memorandum NMFS-NE-245*, at pp. 110-124 (Sept. 2018). Available at: <https://repository.library.noaa.gov/view/noaa/22730>.

<sup>24</sup> Byrd, B.L., Hohn, A.A., Lovewell, G.N., Altman, K.M., Barco, S.G., Friedlaender, A., Harms, C.A., McLellan, W.A., Moore, K.T., Rosel, P.E., and Thayer, V.G., “Strandings as indicators of marine mammal biodiversity and human interactions off the coast of North Carolina.” *Fishery Bulletin*, vol. 112, pp.1-23 (2014).

<sup>25</sup> *Id.*

<sup>26</sup> Halpin, P.N., Read, A.J., Fujioka, E.I., Best, B.D., Donnelly, B.E.N., Hazen, L.J., Kot, C., Urian, K., LaBrecque, E., Dimatteo, A., and Cleary, J., “OBIS-SEAMAP: The world data center for marine mammal, sea bird, and sea turtle distributions.” *Oceanography*, vol. 22, pp.104-115 (2009).

light of the outstanding importance for marine mammals, including the aforementioned strategic species and stocks, this area demands special attention from NMFS during the IHA permitting process.

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 minke and humpback 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 avoidance, minimization, mitigation, and monitoring measures. NMFS must use the best available scientific information on marine mammal presence and density, as required by law.<sup>27</sup> Considering the elevated threat to federally protected species and populations in the Atlantic, and emerging evidence of dynamic shifts in the distribution of marine mammal habitat, NMFS must ensure that any potential stressors posed by the proposed surveys are mitigated to effectuate the least practicable impact on affected species and stocks.<sup>28</sup>

### **III. Concerns Regarding Current Incidental Harassment Authorizations for Marine Site Characterizations Surveys and Necessary Improvements**

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

To comply with statutory requirements of the MMPA, NMFS must base its IHA analysis on the best available scientific information.<sup>29</sup> However, in determining the proportion of marine mammal species and populations taken by the proposed activities—a calculation that lies at the heart of the agency’s “small numbers” analysis—NMFS has chosen to rely on estimates of marine mammal densities derived from the habitat-based density model (the “Roberts et al.” model) produced by the Duke University Marine Geospatial Ecology Laboratory.<sup>30</sup> While this model has been updated to incorporate additional data sources, including in Cape Cod Bay, and two or more years of data,<sup>31</sup> it still excludes important data sources.

#### **Of particular concern is NMFS’ continuing assertion that the lease areas and cable routes south of Nantucket and Martha’s Vineyard are situated only within the North Atlantic right whale**

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<sup>27</sup> 16 U.S.C. § 1362(19), § 1362(27).

<sup>28</sup> 16 U.S.C. § 1371(a)(5)(D)(ii)(I).

<sup>29</sup> 16 U.S.C. § 1362(19), § 1362(27).

<sup>30</sup> Roberts, J.J., Best, B.D., Mannocci, L., Fujioka, E., Halpin, P.N., Palka, D.L., Garrison, L.P., Mullin, K.D., Cole, T.V., Khan, C.B. and McLellan, W.A., “Habitat based cetacean density models for the U.S. Atlantic and Gulf of Mexico,” *Scientific Reports*, vol. 6, p.22615 (2016); Roberts J.J., Mannocci L., and Halpin P.N., “Final Project Report: Marine Species Density Data Gap Assessments and Update for the AFTT Study Area, 2016-2017 (Opt. Year 1).” Document version 1.4. Report prepared for Naval Facilities Engineering Command, Atlantic by the Duke University Marine Geospatial Ecology Lab, Durham, NC (2017); Roberts J.J., Mannocci L., Schick R.S., and Halpin P.N., “Final Project Report: Marine Species Density Data Gap Assessments and Update for the AFTT Study Area, 2017-2018 (Opt. Year 2).” Document version 1.2 - 2018-09-21. Report prepared for Naval Facilities Engineering Command, Atlantic by the Duke University Marine Geospatial Ecology Lab, Durham, NC. (2018).

<sup>31</sup> *Id.*

**migratory corridor,<sup>32</sup> rather than acknowledging that North Atlantic right whales are now regularly observed aggregating socially and foraging in these areas year-round.** This omission is irresponsible in light of NMFS' current work to develop new regulations to reduce entanglement of North Atlantic right whales,<sup>33</sup> for which the importance of this area as a new aggregation and foraging site forms a central point of consideration. A recent NMFS Technical Memorandum authored by the agency's North Atlantic right whale "Expert Working Group" describes the area "South of the Islands" as "core" North Atlantic right whale foraging habitat during the "Winter/Spring/Summer/Fall."<sup>34</sup> The Roberts et al. model does not adequately capture this increase in habitat use by right whales and, therefore, levels of take based solely on those models will most certainly be underestimates. The Expert Working Group specifically notes the need to improve the North Atlantic right whale habitat model and recommends "a coordinated and unified modeling approach [with Canada] to provide distribution and density predictions across the range of NARW habitat."<sup>35</sup>

Similarly, NMFS defined the North Atlantic right whale migratory corridor as a biologically important area ("BIA") in 2015 before evidence emerged of the new foraging areas south of Martha's Vineyard and Nantucket. While helpful in identifying key areas of importance, the BIAs are not comprehensive and are intended to be periodically reviewed and updated to reflect the best available scientific information.<sup>36</sup> Until this review is undertaken for the East Coast, NMFS should not rely on the North Atlantic right whale migratory corridor BIA as the sole indicator of habitat importance for the species.

NMFS must require that all available data are used to ensure that any potential shifts in North Atlantic right whale habitat usage are reflected in estimations of marine mammal density and take. Additional data can be obtained from sightings databases (*e.g.*, NOAA Right Whale Sighting Advisory System;<sup>37</sup> NEFSC Monthly DMA analysis<sup>38</sup>), and passive acoustic monitoring efforts (*e.g.*, Robots4Whales detections;<sup>39</sup>

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<sup>32</sup> See, *e.g.*, 85 Fed. Reg. at 37,872 (Jun. 24, 2020).

<sup>33</sup> See, *e.g.*, "Atlantic Large Whale Take Reduction Team Meeting—Key Outcomes Memorandum," Providence, Rhode Island, April 23-26, 2019 (October 2019). Available at: <https://www.fisheries.noaa.gov/webdam/download/97751765>.

<sup>34</sup> 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-64 (August 2020), at Fig. 1. Available at: <https://www.fisheries.noaa.gov/resource/document/north-atlantic-right-whale-monitoring-and-surveillance-report-and-recommendations>.

<sup>35</sup> *Id.*, at 22.

<sup>36</sup> "However, these BIAs are meant to be living documents that should be routinely reviewed and revised to expand the number of species covered and to update the existing BIAs as new information becomes available." Van Parijs, S. M., "Letter of introduction to the Biologically Important Areas issue." *Aquatic Mammals*, vol. 41, p.1 (2015).

<sup>37</sup> NOAA Fisheries, "NOAA Right Whale Sighting Advisory System." Available at: <https://apps-nefsc.fisheries.noaa.gov/psb/surveys/MapperiframeWithText.html>.

<sup>38</sup> 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/>.

<sup>39</sup> 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](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](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](http://dcs.whoi.edu/nybse0120/nybse0120_buoy.shtml).

NEFSC Acoustic Indicators of Right Whale Occurrence<sup>40</sup>). Further, from February 2017 through June 2018, monthly standardized marine mammal aerial surveys were flown in the Massachusetts and Rhode Island and Massachusetts Wind Energy Areas (“WEAs”) by the New England Aquarium. Right whales were seen in every season and 14 of the 18 months surveyed.<sup>41</sup> As part of the New England Aquarium Study, a digital acoustic monitoring instrument at Nomans Land station detected right whales throughout the sampling period.<sup>42</sup> During the 2018 Atlantic Marine Assessment Program for Protected Species (“AMAPPS”) ship-based surveys,<sup>43</sup> two *foraging* right whales were sighted within the Massachusetts WEA by NMFS researchers studying the potential linkages between biological and physical oceanography and marine mammal sightings on April 7. Additional sightings in the North Atlantic right whale consortium database document 47 right whales in the WEA from March 18, 2018 to April 11, 2018. A study funded by the Bureau of Offshore Energy Management (“BOEM”) using autonomous vehicles for real-time monitoring of marine mammals from December 2019 through March 2020 on Cox’s Ledge acoustically detected right whales in all months of the study.<sup>44</sup> NMFS should take immediate steps to collate and integrate these different data sets that more accurately reflect marine mammal presence for future IHAs and other work.

As a general matter, the Roberts et al. model does not differentiate between species of pilot whale or seal, or between stocks of bottlenose dolphin, including the depleted and strategic Western North Atlantic Southern Migratory Coastal Stock of bottlenose dolphin. To make up for the general data, NMFS authorizes the total take for each stock of bottlenose dolphins and all pilot whale and seal species.<sup>45</sup> However, the MMPA requires that the agency look at the impact to both species and marine mammal stocks to support a negligible impact finding. A record that provides “general discussions with little, if any, relevance to the population-level effects on specific species and stock, and to conclusory statements that no such effects are expected,” is inadequate.<sup>46</sup> Miscalculation of take levels based on incomplete data could have serious implications for the future conservation of these species and stocks.

*B. NMFS must analyze cumulative impacts to North Atlantic right whales and other endangered and protected marine mammal species and stocks as part of the take estimation and permitting process*

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<sup>40</sup> Northeast Fisheries Science Center, “Acoustic Indicators of Right Whale Occurrence.” Available at: <https://apps-nefsc.fisheries.noaa.gov/psb/surveys/interactive-monthly-dma-analyses/>.

<sup>41</sup> Quintana, E., Kraus, S., and Baumgartner, M., “Megafauna aerial surveys in the Wind Energy Area of Massachusetts and Rhode Island with emphasis on large whales. Summary Report – Campaign 4, 2017-2018.” New England Aquarium and Woods Hole Oceanographic Institution (December 2019).

<sup>42</sup> *Id.*

<sup>43</sup> Northeast Fisheries Science Center and Southeast Fisheries Science Center, “2018 Annual Report of a Comprehensive Assessment of Marine Mammal, Marine Turtle, and Seabird Abundance and Spatial Distribution in US waters of the Western North Atlantic Ocean – AMAPPS II.” (2019). Available at: <https://www.fisheries.noaa.gov/resource/publication-database/atlantic-marine-assessment-program-protected-species>.

<sup>44</sup> 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](http://dcs.whoi.edu/cox1219/cox1219_we16.shtml).

<sup>45</sup> *See, e.g.*, 85 Fed. Reg. at 36,537 (Jun. 17, 2020).

<sup>46</sup> *Conservation Council for Hawaii v. NMFS*, 97 F. Supp. 3d 1210, 1223 (D. Haw. 2015).



The spatial and temporal scale of site characterization surveys has increased significantly over the last three years. For example, the Final IHA issued to Orsted Wind Power LLC in 2019, authorizes surveys conducted across a geographic area spanning waters off Massachusetts, Rhode Island, and New York twenty-four hours a day for up to a year, utilizing between five and nine survey vessels at any one time (representing 666 “vessel days”).<sup>47</sup> The number of authorizations granted to different applicants in the same geographic region has also increased. This is particularly true of the Lease Areas and associated potential export cable routes off Rhode Island and Massachusetts where there are currently eight separate wind energy projects in various stages of development.<sup>48</sup> Each project has, or will need to, request authorization from NMFS to carry out site assessment and characterization activities that will then be undertaken concurrently or sequentially in space and time.

The operation of multiple, large-scale geophysical surveys within the same area at the same time presents significant potential for cumulative disturbance of strategic and otherwise vulnerable marine mammal species and stocks. The agency acknowledges that “[a]ny disturbance to marine mammals is likely to be in the form of temporary avoidance or alteration of opportunistic foraging behavior near the survey location,”<sup>49</sup> but makes no attempt to account for cumulative impacts from multiple sound sources operating concurrently and continuously across the survey areas. Additionally, “vessel days” are treated equally by the agency in terms of potential impacts to marine mammals<sup>50</sup> even though there are times of year when some species have higher vulnerability to noise exposure from the survey activities being undertaken (*e.g.*, during foraging periods), or may have reduced ability to avoid noise exposure due to multiple survey vessels operating in the same vicinity at the same time.

**We are extremely concerned about the cumulative impacts of survey activities in the Lease Areas and associated potential cable export routes off Rhode Island and Massachusetts on North Atlantic right whales.** These areas coincide directly with year-round “core” North Atlantic right whale foraging habitat<sup>51</sup> and well as ESA critical habitat.<sup>52</sup> 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 relative to the overall distribution of North Atlantic right whales, and a decreasing amount of habitat is available for resting, pregnant and lactating females.<sup>53</sup> This means that

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<sup>47</sup> 84 Fed. Reg. at 36,055 (Jul. 26, 2019).

<sup>48</sup> See, BOEM, “Atlantic OCS Renewable Energy – Massachusetts to South Carolina,” (March 30, 2020). Available at: <https://www.boem.gov/sites/default/files/images/Map%20of%20Atlantic%20OCS%20renewable%20energy%20areas.jpg>

<sup>49</sup> See, *e.g.*, 84 Fed. Reg. at 36,054 (Jul. 26, 2019), at 36,065.

<sup>50</sup> *Id.*

<sup>51</sup> Oleson, E.M., et al., “North Atlantic Right Whale Monitoring and Surveillance: Report and Recommendations of the National Marine Fisheries Service’s Expert Working Group,” *supra* note 34.

<sup>52</sup> 81 Fed. Reg. at 4,837 (Jan. 27, 2016).

<sup>53</sup> 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,

unrestricted and undisturbed access to suitable areas, when they exist, is extremely important for the species to maintain its energy budget.<sup>54</sup> 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.<sup>55</sup> 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.”<sup>56</sup> 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.<sup>57</sup> NMFS must ensure undisturbed access to foraging habitat to adequately protect the species.

The best available scientific information shows that the North Atlantic right whale population cannot withstand any additional stressors; any potential interruption of foraging behavior may lead to population-level effects and is of critical concern.<sup>58</sup> Currently, NMFS undertakes take analyses and prescribes mitigation measures on a project-by-project basis, leading to inconsistency, inefficiency, and inadequacy. **NMFS must carefully analyze the cumulative impacts from the proposed survey activities on the North Atlantic right whale and other endangered and protected species and stocks and ensure appropriate mitigation of these cumulative impacts. We suggest that the agency advance a programmatic incidental take regulation for site characterization activities.**<sup>59</sup> This will ensure NMFS considers alternatives and mitigation measures at the scale at which impacts will occur and may potentially help increase the pace of environmentally responsible offshore wind development along the East Coast.

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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).

<sup>54</sup> *Id.*

<sup>55</sup> Van der Hoop, J., et al., *id.*

<sup>56</sup> *Id.*

<sup>57</sup> 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).

<sup>58</sup> *See, e.g., id.*; Van der Hoop, J., et al., “Foraging rates of ram-filtering North Atlantic right whales,” *supra* note 53.

<sup>59</sup> *See* Letter from National Wildlife Federation, Natural Resources Defense Council, National Audubon Society, Conservation Law Foundation, Defenders of Wildlife, Sierra Club, Mass Audubon, New Hampshire Audubon, NY4WHALES, Southern Environmental Law Center, Surfrider, and Whale and Dolphin Conservation, submitted to the Program Manager, Office of Renewable Energy, Bureau of Ocean Energy Management, re: “Vineyard Wind 1 Construction and Operations Plan Supplement to the Draft Environmental Impact Statement.” Docket ID: BOEM-2020-0005 (July 27, 2020). Some of our groups have mirrored this recommendation in comments to BOEM. To best account for the impacts of the simultaneous development of multiple lease areas on the North Atlantic right whale, we have stressed that BOEM prepare a full Programmatic Environmental Impact Statement (“EIS”) encompassing all U.S. East Coast renewable energy development as soon as possible to inform future offshore wind development. It would be highly beneficial to collectively consider available information on North Atlantic right whales in U.S. Atlantic waters to build a picture of responsible development accounting for the lifespan and migratory movements of the species, which have the potential to overlap with every Lease Area along the U.S. East Coast on a twice-yearly basis (*i.e.*, northern and southern migration). A Programmatic EIS is also particularly timely given the climate-driven shifts in North Atlantic right whale habitat use observed over the past decade as well as significant changes in their conservation status and major threats.

*C. NMFS must not adjust take numbers downward for large whales based on unproven mitigation measures*

In a number of IHAs, NMFS elected to adjust take numbers of endangered large whales downward by as much as 100 percent, based on assumptions that marine mammals will avoid the sound and the presumed effectiveness of mitigation measures. For example, in the IHA for Bay State Wind, issued in 2018, the agency elected to adjust take numbers of North Atlantic right whales to zero “due to the implementation of a 500 m shutdown zone [i.e., exclusion zone or “EZ”], which is greater than the 400 m Level B behavioral harassment zone.”<sup>60</sup> For Avangrid Renewables, LLC (issued in 2019), NMFS adjusted take numbers of endangered North Atlantic right whales and fin whales to zero as “the calculated numbers of potential acoustic exposures above the 160 dB threshold are small” and based on the implementation of a 500-m exclusion zone for North Atlantic right whales and a 200-m exclusion zone for fin whales that are greater than or, in the case of fin whales, equal to the calculated Level B harassment zone.<sup>61</sup> In the IHA for Mayflower Wind issued in 2020, NMFS adjusted take numbers for North Atlantic right whales and other large whale species downward by 50 percent, acknowledging risk to the species during the night:

“... expect[s] the proposed mitigation measures, including a 500-m exclusion zone for right whales (which exceeds the Level B harassment zone by over 350-m), will be effective in reducing the potential for takes by Level B harassment, but there is still a risk that right whales may not be detected within the Level B harassment zone during periods of diminished visibility, particularly at night.”<sup>62</sup>

While we appreciate NMFS’ decision to authorize fewer Level B takes for the North Atlantic right whale and other endangered and protected species, **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.**<sup>63</sup>

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.<sup>64</sup> Second,

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<sup>60</sup> 83 Fed. Reg. at 22,458 (May 15, 2018).

<sup>61</sup> 84 Fed. Reg. at 17,400 (Apr. 25, 2019).

<sup>62</sup> 85 Fed. Reg. at 37,866 (May 25, 2020).

<sup>63</sup> *E.g.*, In support of the adjustment of take numbers authorized for the Avangrid Renewables, LLC. project, the agency reflects on the success of required monitoring during previous geophysical surveys conducted off the U.S. East Coast: “Marine mammal monitoring reports submitted after the completion of HRG surveys indicated that authorized take numbers have never been exceeded.”<sup>63</sup> The assumption inherent in this statement is that the number and nature of takes are possible to accurately determine by what has largely been visual monitoring. Moreover, the agency is proposing to authorize solely Level B take, which is highly unlikely to be detected by visual observation. 84 Fed. Reg. 17,384 (April 25, 2019).

<sup>64</sup> *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-IHA.pdf>. The Marine

the agency relies on the assumption that marine mammals will take measures to avoid the sound<sup>65</sup> even though studies have not found avoidance behavior to be generalizable among species and contexts<sup>66</sup> and even though avoidance may itself constitute take under the MMPA.<sup>67</sup> 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.<sup>68</sup>

Disturbingly, we have also witnessed an erosion in the strength of mitigation measures in recent IHAs that NMFS has issued compared to previous IHA authorizations for the region, even as the conservation status of the North Atlantic right whale and other species has continued to deteriorate. For example, NMFS required multiple Protected Species Observers (“PSO”), night vision and infrared technology, and passive acoustic monitoring for Bay State Wind in 2018. In subsequent IHAs, NMFS required the use of PSOs as the sole monitoring method<sup>69</sup> and, by Fall 2019, NMFS further weakened requirements to only a single PSO as the primary means of detecting marine mammals during the day, requiring neither night vision or infrared technology nor real-time passive acoustic monitoring.<sup>70</sup>

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 require mitigation measures that meet the least practicable adverse impact standard*

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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 μPa threshold for acoustic, non-impulsive sources (e.g., parametric SBPs, chirps, echosounders, and other sonars including side-scan and fish-finding).”

<sup>65</sup> See, e.g., “We expect that all potential takes would be in the form of short-term Level B behavioral harassment in the form of temporary avoidance of the area, reactions that are considered to be of low severity and with no lasting biological consequences (e.g., Southall et al., 2007).” 85 Fed. Reg. at 37,872.

<sup>66</sup> 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/wp-content/uploads/Navy\\_GOA\\_ANPR\\_091514.pdf](https://www.mmc.gov/wp-content/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.”

<sup>67</sup> 16 U.S.C. § 1362(18)(A)(ii).

<sup>68</sup> 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>.

<sup>69</sup> See, e.g., 84 Fed. Reg. at 31,032 (Jun. 28, 2019); 84 Fed. Reg. at 52,464 (Oct. 2, 2019).

<sup>70</sup> See, e.g., 84 Fed. Reg. at 66,156 (Dec. 3, 2019); 85 Fed. Reg. at 55,415 (Sep. 8, 2020).

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.”<sup>71</sup> Knowing the cumulative risks posed to the North Atlantic right whale and other protected marine mammal 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.

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

a. Seasonal and diel restrictions

**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  $\mu$ Pa (SPL) at 1-meter at frequencies between 7 and 35 kHz to be potentially harmful to low-frequency cetaceans<sup>72</sup>) 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 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 (*see* Attachment 2).<sup>73</sup>

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 humpback whales and minke whales,<sup>74</sup> as well as the several 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

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<sup>71</sup> 16 U.S.C. § 1371(a)(5)(D)(vi).

<sup>72</sup> *See, e.g.*, Gomez, C., et al., “A systematic review on the behavioural responses of wild marine mammals to noise: the disparity between science and policy,” *supra* note 64. Tyack, P.L., and Thomas, L., “Using dose-response functions to improve calculations of the impact of anthropogenic noise,” *supra* note 64.

<sup>73</sup> Letter from Kraus, S., Quintana, E., Rice, A., Good, C., and Baumgartner, M. to Mr. James Bennet, Chief of the Office of Renewable Energy Programs, Bureau of Ocean Energy Management, and Ms. Donna Wieting, Director, Office of Protected Resources, National Marine Fisheries Service, regarding recommendations for adequate and effective mitigation of noise impacts to the North Atlantic right whale during offshore wind construction (August 2, 2018). For the Rhode Island and Massachusetts and Massachusetts Wind Energy Areas, the scientists recommend a temporary prohibition on pile driving from January 1 to April 30 and an “enhanced mitigation protocol be in place from May 1 through 14 and November 1 through December 31. As North Atlantic right whale distribution is known to be shifting, the scientists 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.

<sup>74</sup> NOAA-NMFS, “2018-2020 North Atlantic right whale Unusual Mortality Event,” *supra* note 12; NOAA-NMFS, “2016-2020 Humpback whale Unusual Mortality Event along the Atlantic Coast,” *supra* note 21; NOAA-NMFS, “2017-2020 Minke whale Unusual Mortality Event along the Atlantic Coast,” *supra* note 20.

protected species (*see* Section IV: “Advancing Monitoring and Mitigation During Offshore Wind Development”).

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 good visibility conditions 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 developers to wait until daylight hours and good visibility conditions to recommence.

b. Adequate monitoring of exclusion zones

As noted above, the 160 dB threshold for behavioral harassment is not supported by best available scientific information and grossly underestimates Level B take (*see* Section III(C)). **For the North Atlantic right whale, NMFS should establish an exclusion zone of 1,000-meters around each vessel conducting activities with noise levels that could result in injury or harassment to this species** (*i.e.*, source levels > 180 dB re 1 µPa (SPL) at 1-meter at frequencies between 7 and 35 kHz). NMFS should establish a minimum exclusion zone of 500 meters for other large whale species and strategic stocks. We agree with NMFS’ previous requirements that observations must begin at least 30 minutes prior to the commencement of geophysical survey activity and should be conducted throughout the time of geophysical survey activity. NMFS should require that activity be halted or delayed if a North Atlantic right whale or other species is detected in the relevant exclusion zone.

As noted above in Section C, **NMFS has established a wholly inadequate standard for visual monitoring during marine site characterization surveys and has weakened that inadequate standard over time.** Recently, NMFS approved an IHA that required only a single PSO to be on duty during daylight hours and 30 minutes prior to and during nighttime ramp-ups of HRG equipment,<sup>75</sup> stating that “[v]isual PSOs would coordinate to ensure 360° visual coverage around the vessel from the most appropriate observation posts...”<sup>76</sup> It is not possible for a single PSO to continually visually monitor 360°. NMFS’ minimum requirement of a single PSO is underprotective. Furthermore, PSOs are unable to visually monitor the exclusion area during darkness and periods of low visibility. NMFS must require the use of infrared equipment to support visual monitoring by PSOs during periods of darkness.<sup>77</sup>

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<sup>75</sup> 85 Fed. Reg. at 45,590-45,591 (Jul. 29, 2020).

<sup>76</sup> *Id.*

<sup>77</sup> 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

Moreover, visual observations are not enough. 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.<sup>78</sup> 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.<sup>79</sup> Based on data collected by the National Buoy Data Center,<sup>80</sup> 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.

NMFS' failure to require using passive acoustic monitoring at any time during geophysical surveys is extremely concerning. **NMFS should require passive acoustic monitoring at all times—not only during nighttime hours—to maximize the probability of detection for North Atlantic right whales, and ideally other 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 real or near-real time when noise levels that could result in injury or harassment to the species are being conducted.

c. Reduction of underwater noise

According to NOAA's "Ocean Noise Strategy Roadmap:"

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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.

<sup>78</sup> 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).

<sup>79</sup> 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 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.

<sup>80</sup> NOAA-NWS, "National Data Buoy Center." Available at: <http://www.ndbc.noaa.gov/>.

“[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 level at the source (which may include replacing the source with a different type of source capable of the same function).”<sup>81</sup>

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.<sup>82</sup> Thus, reducing sound emissions at the source is one the most effective means of mitigating the impacts of noise on protected species.

**NMFS must require IHA applicants to 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.** For example, NMFS should require developers to select sub-bottom profiling systems, and operate those systems at power settings, that achieve the lowest practicable source level for the objective. NMFS currently has no such requirements.

*E. NMFS must strengthen its vessel speed restrictions to mitigate the harm of increased vessel traffic*

Vessel collisions are a leading cause of large whale injury and mortality and a primary driver of the East Coast’s three ongoing UMEs. Serious injury or mortality can occur from a vessel traveling above 10 knots irrespective of its length.<sup>83</sup> The number of recorded vessel collisions on 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.<sup>84</sup> 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.<sup>85</sup> 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

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<sup>81</sup> Gedamke, J., et al., “Ocean Noise Strategy Roadmap.” NOAA Fisheries, (2016), at p. 23. Available at: [https://cetsound.noaa.gov/Assets/cetsound/documents/Roadmap/ONS\\_Roadmap\\_Final\\_Complete.pdf](https://cetsound.noaa.gov/Assets/cetsound/documents/Roadmap/ONS_Roadmap_Final_Complete.pdf).

<sup>82</sup> Leaper, R., Calderan, S., & 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).

<sup>83</sup> NOAA-NMFS, “Reducing ship strikes to North Atlantic right whales.” Available at: [https://www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-ship-strikes-north-atlantic-right-whales#:~:text=All%20vessels%2065%20feet%20\(19.8,endangered%20North%20Atlantic%20right%20whales](https://www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-ship-strikes-north-atlantic-right-whales#:~:text=All%20vessels%2065%20feet%20(19.8,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.

<sup>84</sup> 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).

<sup>85</sup> NOAA-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).



relatively moderate levels of exposure.<sup>86</sup> It is possible that geophysical surveys could produce the same effects, and should therefore be treated conservatively. **The agency has a responsibility to implement mitigation measures to prevent any further vessel collisions for the North Atlantic right whale and other large whale species currently experiencing a UME (i.e., humpback whales and minke whales), as well as other endangered and protected marine mammals (e.g., fin whales), which, in light of the broad distributional shifts observed for multiple species,<sup>87</sup> may be at potential future risk of experiencing a UME.**

NMFS' authorizations acknowledge that vessel strikes can kill animals, that speed is a factor, and that North Atlantic right whales are particularly vulnerable because they are "generally unresponsive to vessel sound" and "more susceptible to vessel collisions,"<sup>88</sup> yet these authorizations only discuss the impacts of survey vessels that generally travel at speeds of less than four knots.<sup>89</sup> This ignores the impacts of all other project vessels on right whales (e.g., crew transfer vessels). While we appreciate that NMFS expressly requires all survey vessels to observe a 10-knot speed restriction within Seasonal Management Areas ("SMAs") or otherwise voluntary Dynamic Management Areas ("DMAs"),<sup>90</sup> NMFS implicitly authorizes project vessels to travel at speeds greater than 10 knots at all other times, unless a right whale is actually observed within 500 meters.<sup>91</sup> This is wholly insufficient. The recent death of a North Atlantic right whale calf off New Jersey<sup>92</sup> indicates how even single or pairs of animals are at risk of vessel strike year-round. North Atlantic right whales had been acoustically detected in the New York/New Jersey Bight region, yet no vessel speed rules were triggered under current regulations. In light of this tragic event, a sighting of three or more North Atlantic right whales is too high a bar to trigger a DMA. As a general matter, **NMFS should require mandatory speed restrictions within DMAs in every instance that a single North Atlantic right whale is sighted or acoustically detected, not just aggregations of three or more whales.** At minimum, NMFS must immediately pay special attention to protecting mother-calf pairs.

As NMFS notes, studies indicate that noise can induce flight responses, behavioral disturbances, habitat avoidance, and stress responses that reduce feeding rates and reproductive success.<sup>93</sup> Because of the noise, geophysical surveys could also cause horizontal displacement<sup>94</sup> and push a North Atlantic right whale out of a protected area (SMA or DMA) into an area where vessels are traveling at greater speed, presenting an

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<sup>86</sup> 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).

<sup>87</sup> Davis, G.E., Baumgartner, M.F., Corkeron, P.J., Bell, J., Berchok, C., Bonnell, J.M., Bort Thornton, J., Brault, S., Buchanan, G.A., Cholewiak, D. 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. 4812-4840 (2020).

<sup>88</sup> See, e.g., 85 Fed. Reg. at 37,862 (Jun. 24, 2020) (citing Nowacek *et al.*, 2004).

<sup>89</sup> See, e.g., 85 Fed. Reg. at 37,866 (Jun. 24, 2020)

<sup>90</sup> See, e.g., 85 Fed. Reg. at 55,430 (Sep. 8, 2020).

<sup>91</sup> See, e.g., *id.*

<sup>92</sup> NOAA Fisheries, "Dead North Atlantic Right Whale Sighted off New Jersey" (June 29, 2020). Available at: <https://www.fisheries.noaa.gov/feature-story/dead-north-atlantic-right-whale-sighted-new-jersey#:~:text=June%2028%2C%202020,of%20the%202019%2F20%20season.>

<sup>93</sup> See, e.g., 85 Fed. Reg. at 37,860-37,862 (Jun. 24, 2020).

<sup>94</sup> 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).

even greater danger of vessel collision. Thus, NMFS' analysis must also account for habitat displacement producing an indirect vessel strike.

**Vessel strikes pose an unacceptable risk. NMFS must require all 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.**

*F. NMFS must prohibit extensions of any one-year authorizations through a truncated 15-day comment period as is contrary to the MMPA*

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.<sup>95</sup>

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.<sup>96</sup> Second, the statute is clear on its face that a 30-day comment period is required in all instances.<sup>97</sup> 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 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."<sup>98</sup> When NMFS adheres to this process, "the public is assured of the right to be informed of actions taken or proposed."<sup>99</sup> 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.<sup>100</sup>

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.<sup>101</sup> 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

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<sup>95</sup> See, e.g., 84 Fed. Reg. at 8,316 (Mar. 7, 2019); 84 Fed. Reg. at 13,246 (Apr. 4, 2019); 84 Fed. Reg. at 8,312 (Mar. 7, 2019); 84 Fed. Reg. at 32,881 (July 10, 2019); 84 Fed. Reg. at 20,336 (May 9, 2019); 84 Fed. Reg. at 72,301 (Dec. 31, 2019); 85 Fed. Reg. at 26,962 (May 6, 2020); 85 Fed. Reg. at 42,832 (July 15, 2020); 85 Fed. Reg. at 33,124 (June 1, 2020); 85 Fed. Reg. at 41,560 (July 10, 2020). In fact, NMFS has begun actually issuing renewals through this new reauthorization process. See, e.g., 84 Fed. Reg. at 17,784 (Apr. 26, 2019); 84 Fed. Reg. at 18,801 (May 2, 2019); 84 Fed. Reg. at 15,598 (Apr. 16, 2019); 84 Fed. Reg. at 41,958 (Aug. 16, 2019); 84 Fed. Reg. at 26,405 (June 6, 2019); 85 Fed. Reg. at 9,740 (Feb. 20, 2020); 85 Fed. Reg. at 37,064 (June 19, 2020); 85 Fed. Reg. at 38,863 (June 29, 2020).

<sup>96</sup> 16 U.S.C. § 1371(a)(5)(D)(i).

<sup>97</sup> *Id.* § 1371(a)(5)(D)(iii).

<sup>98</sup> H.R. Rep. No. 92-707, at 4151 (1972), reprinted in 1972 U.S.C.C.A.N. 4144, 4151.

<sup>99</sup> *Id.* at 4146.

<sup>100</sup> H.R. Rep. No. 103-439, at 29 (1994).

<sup>101</sup> 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.").

authority to set forth a permissible interpretation of the statute that comports with the statute's objectives.<sup>102</sup>

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."<sup>103</sup> 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 website<sup>104</sup> 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.

#### **IV. Advancing Monitoring and Mitigation During Offshore Wind Development**

While the best available scientific information justifies the use of seasonal restrictions to temporally separate survey activity from North Atlantic right whales in some areas, it is becoming increasingly clear that there may not be a time of "low risk" for this species. The population size is now so small that any individual-level impact is of great concern. In addition, climate-driven changes in oceanographic conditions, and resulting shifts in prey distribution, are rapidly changing the spatial and temporal patterns of habitat use for North Atlantic right whales and other large whale species.<sup>105</sup> Therefore, **we recommend NMFS work, with relevant experts and stakeholders, towards developing a robust and effective near real-time monitoring and mitigation system for North Atlantic right whales and other**

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<sup>102</sup> 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").

<sup>103</sup> 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).

<sup>104</sup> 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>.

<sup>105</sup> Davis, G.E., et al., "Exploring movement patterns and changing distributions of baleen whales in the western North Atlantic using a decade of passive acoustic data," *supra* note 87; 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); 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).

**endangered and protected species (e.g., fin, sei, minke, and humpback whales) during offshore wind development.**

The ability to reliably detect North Atlantic right whales and other species on a near real-time basis and adjust survey (and future construction) activities accordingly (e.g., if a North Atlantic right whale is detected with X distance of the survey/construction area on Day 1, no survey/construction activity will be undertaken on Day 2) would enable NMFS to adaptively manage and mitigate risks to protected species in near-real time while affording flexibility to offshore wind developers. This approach could be used in conjunction with seasonal restrictions in North Atlantic right whale foraging areas (e.g., off southern New England), or potentially year-round in the Mid-Atlantic region where a changing climate is leading to novel spatial and temporal habitat-use patterns. A near real-time monitoring and mitigation approach would also minimize risks to other protected species that may be present at high densities at times when North Atlantic right whales are expected to be present in lower numbers (e.g., humpback whale and fin whale foraging aggregations that occur in the summer months in the New York Bight).

There are several technologies in various stages of development that would allow near real-time detection of protected species (e.g., Robots4Whales<sup>106</sup>) and convey that information to decisionmakers (e.g., “Mysticetus”<sup>107</sup>) to inform mitigation action. Near real-time monitoring systems are already being deployed to mitigate risks to North Atlantic right whales. For example, an unmanned acoustic glider capable of auto-detecting North Atlantic right whale calls is currently informing decisions being made by Transport Canada on when to impose vessel speed restrictions in the Laurentian Channel. Ten-knot speed limits can be issued within an hour of North Atlantic right whales being detected.<sup>108</sup> NMFS should evaluate the current status of near real-time detection technologies and develop recommendations for an integrated near real-time monitoring and mitigation system that combines, at minimum, both visual and acoustic detections.

It is also of paramount importance that NMFS encourage and promote adaptive management and robust long-term monitoring to assess impacts as offshore wind is developed and operational. Offshore wind remains a relatively nascent technology in the U.S. and it is therefore imperative that the impact of offshore wind operations on marine wildlife and the ocean ecosystem be closely monitored to guide the industry’s adaptive management and future development. It is vital that we gain an understanding of baseline environmental conditions prior to large-scale offshore wind development in the United States. To this end, NMFS must coordinate with BOEM to establish and fund a robust, long-term scientific plan to monitor the effects of offshore wind development on marine mammals and other species before, during, and after large-scale commercial projects are constructed. Without strong baseline data collection and environmental monitoring in place, we risk losing the ability to detect and understand potential impacts and set an under-protective precedent for future offshore wind development. Such monitoring must inform and drive future mitigation as well as potential practical changes to existing operations to reduce any potential impacts to natural resources and wildlife. **We are extremely concerned that no such long-**

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<sup>106</sup> Woods Hole Oceanographic Institution WHOI and WHOI/WCS, “Robots4Whales,” *supra* note 39.

<sup>107</sup> Available at: <https://www.mysticetus.com/>.

<sup>108</sup> See, e.g., CBC News, “Underwater glider helps save North Atlantic Right Whales from Ship Strikes,” (August 30, 2020), <https://www.cbc.ca/news/canada/new-brunswick/nb-north-atlantic-right-whales-underwater-glider-1.5701984>.

**term monitoring requirements are currently in place for the first commercial-scale projects in the United States.**

**V. Conclusion**

NMFS' current approach to authorizing incidental take of marine mammals during marine site characterization activities for offshore wind energy development is inadequate and not compliant with the law. Our groups request the opportunity to meet with you and your staff to further discuss these issues and necessary improvements in more detail. For further discussion, please contact Michael Jasny (mjasny@nrdc.org) at the Natural Resources Defense Council.

Sincerely,

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ATTACHMENTS:

1. "ENGO Comments on Proposed IHAs 2018-2020"
2. "Scientist Letter. North Atlantic right whale mitigation measures for offshore wind. 2 Aug 2018"

CC: Mr. James F. Bennett, Program Manager, Renewable Energy Program, Bureau of Ocean Energy Management