



# MARINE MAMMAL COMMISSION

6 July 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 modification submitted by Virginia Electric and Power Company, d/b/a Dominion Energy Virginia (Dominion) under section 101(a)(5)(D) of the Marine Mammal Protection Act (the MMPA). Dominion is seeking authorization to take small numbers of marine mammals by harassment incidental to high-resolution geophysical (HRG) surveys off the coast of Virginia during a one-year period. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 17 June 2020 notice (85 Fed. Reg. 36537) requesting comments on its proposal to issue the authorization, subject to certain conditions.

## Background

Dominion is proposing to conduct HRG surveys to characterize a lease area<sup>1</sup> off Virginia and an export cable route, in support of the Coastal Virginia Offshore Wind Commercial (CVOW Commercial) project. The surveys would occur during day and night and would involve the use of up to two vessels concurrently<sup>2</sup>, for approximately 161 days<sup>3</sup>. Sound-generating equipment proposed for use includes sub-bottom profilers (SBPs)<sup>4</sup>, ultra-short baseline (USBL) and global acoustic positioning systems, multibeam echosounders, and side-scan sonars.

NMFS preliminarily has determined that the proposed activities could cause Level B harassment of small numbers of 15 marine mammal species. It also anticipates that any impact on the affected species and stocks would be negligible. NMFS does not anticipate any take of marine mammals by death or serious injury and believes that the potential for disturbance will be at the least practicable level because of the proposed mitigation measures. The proposed mitigation, monitoring, and reporting measures include—

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<sup>1</sup> Bureau of Ocean Energy Management (BOEM) lease number OCS-A-0483.

<sup>2</sup> Operating "at least several kilometers apart."

<sup>3</sup> 149 days in the lease area and 12 days in the export cable corridor.

<sup>4</sup> Including parametric, non-parametric (chirp), boomer, and sparker types.

- using one protected species observer (PSO) in the daytime<sup>5</sup> and two PSOs at night to monitor the exclusion zones<sup>6</sup>, a 500-m monitoring zone, and a 200-m buffer zone for 30 minutes before, during, and for 30 minutes after the HRG surveys;
- using standard pre-clearance<sup>7</sup>, ramp-up, delay, and shutdown procedures<sup>8</sup>;
- using shutdown procedures if a species for which authorization has not been granted, or a species for which authorization has been granted but the authorized number of takes is met, approaches or is observed within the 100-m Level B harassment zone;
- using night-vision equipment<sup>9</sup> to detect marine mammals during night-time operations;
- using standard vessel strike avoidance procedures, maintaining minimum separation distances<sup>10</sup>, and monitoring the NMFS North Atlantic right whale reporting systems during all survey activities;
- reporting injured and dead marine mammals to the Office of Protected Resources and the New England/Mid-Atlantic Regional Stranding Coordinator; and
- submitting a draft and final report to NMFS.

### Appropriateness of Level A and B harassment zones

*Background*—The Commission has commented repeatedly on the inappropriateness of Level A and B harassment zones associated with multiple HRG surveys in previous letters (e.g., see its [26 June 2020](#)<sup>11</sup>, [12 March 2020](#)<sup>12</sup>, [18 October 2019](#)<sup>13</sup>, [23 August 2019](#)<sup>14</sup>, [6 July 2018](#)<sup>15</sup>, [13 June 2018](#)<sup>16</sup> letters). However, NMFS continues to include vastly inaccurate Level A harassment zones in its *Federal Register* notices and prohibit applicants from using in-situ measurements of Level B harassment zones. Instead, NMFS has required action proponents to use harassment zones calculated from source levels obtained either from Crocker and Fratantonio (2016) or manufacturer specifications, which has resulted in overestimated Level A and B harassment zones. These and other issues are summarized herein.

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<sup>5</sup> Section 4(b) of the draft authorization states that PSOs must be used at all times during daylight hours on any day in which use of the acoustic source is planned to occur; Section 5(d) of the draft authorization states that visual monitoring must continue until one hour after use of the acoustic source or until 30 minutes past sunset.

<sup>6</sup> NMFS specified in the *Federal Register* notice that the exclusion zones were 500 m for North Atlantic right whales, 100 m for other large whales, and 25 m when only the boomer is in use (85 Fed. Reg. 36557). However, condition 4(c) in the draft authorization indicated that the exclusion zones were 500 m for North Atlantic right whales, 100 m for all other marine mammals (not just large whales) except small delphinids (*Delphinus* spp., *Tursiops* spp., *Stenella* spp., and *Lagenorhynchus* spp.), and 25 m when only the boomer is in use. The Commission assumes that the exclusion zones specified in the *Federal Register* notice are the correct ones.

<sup>7</sup> For the 500-m exclusion zone for right whales and the 200-m buffer zone for all other marine mammals.

<sup>8</sup> Shutdowns would not be required for small delphinids (*Delphinus* spp., *Tursiops* spp., *Stenella* spp., and *Lagenorhynchus* spp.).

<sup>9</sup> This requirement was included in the draft authorization but was not specified in the preamble of the *Federal Register* notice.

<sup>10</sup> 500 m for right whales, 100 m for all other large whales, and 50 m from all other marine mammals.

<sup>11</sup> For Mayflower Energy, LLC's (Mayflower) proposed HRG surveys.

<sup>12</sup> For Vineyard Wind, LLC (Vineyard) and Atlantic Shores Offshore Wind, LLC's (Atlantic Shores) proposed HRG surveys.

<sup>13</sup> For Skipjack Offshore Energy, LLC's (Skipjack) proposed HRG surveys.

<sup>14</sup> For Ørsted Wind Power LLC's (Ørsted) proposed HRG surveys.

<sup>15</sup> For Dominion Energy Virginia's (Dominion) proposed HRG surveys.

<sup>16</sup> For Ørsted/Bay State Wind's (Bay State Wind) proposed HRG surveys.

*Parameters, assumptions, and methods for estimating Level A and B harassment zones*—There are numerous issues with the parameters, assumptions, and methods used by Dominion, and in turn NMFS, to estimate the Level A and B harassment zones. The issues include, but are not limited to—

- NMFS using inconsistent and non-transparent source levels for the same equipment that operates under the same parameters.
  - NMFS recently used a source level of 179 dB re  $1\mu\text{Pa}_{\text{root-mean-square (rms)}}$  at 1 m for the EdgeTech 216 Chirp (Table 2; 85 Fed. Reg. 31858) operating at 2–16 kHz—that source level was based on the highest measured source level for the EdgeTech 512i Chirp operating at 100-percent power from Crocker and Fratantonio (2016). In this instance, NMFS used a source level of 193 dB re  $1\mu\text{Pa}_{\text{rms}}$  at 1 m for the EdgeTech 216 Chirp operating at 2–16 kHz, presumably based on manufacturer’s specifications.
  - On a similar note, Crocker and Fratantonio (2016) indicated that the source level for the EdgeTech 512i Chirp operating at 100-percent power at 0.7–12 kHz with a 20-msec pulse duration was 179 dB re  $1\mu\text{Pa}_{\text{rms}}$  at 1 m, not 177 dB re  $1\mu\text{Pa}_{\text{rms}}$  at 1 m as indicated by NMFS.
  - Dominion’s application for its recently authorized construction activities in the CVOW Research Lease Area indicated that the source level for the Sonardyne Ranger 2 (Sonardyne) USBL was 194 dB re  $1\mu\text{Pa}_{\text{rms}}$  at 1 m based on manufacturer’s specifications, while 188 dB re  $1\mu\text{Pa}_{\text{rms}}$  at 1 m was used for the proposed authorization (Table 1; 85 Fed. Reg. 36540), which also was apparently based on manufacturer’s specifications (see footnote 1 in the table). Consistent source levels must be used when equipment is operating under the same parameters or when based on the same information (e.g., Crocker and Fratantonio (2016) and manufacturer’s specifications).
- NMFS incorrectly pairing the 241 dB re  $1\mu\text{Pa}_{\text{rms}}$  at 1 m source level at the primary frequencies of 85–115 kHz with the secondary low frequencies<sup>17</sup> of 2–22 kHz for the Innomar SES-2000 medium 100 parametric (Innomar) SBP. The source levels at the lower frequencies are 35 to more than 50 dB less than the source levels at the primary frequencies (Browning et al. 2009, Qu et al. 2018). Source levels must be paired with the relevant frequencies.
- NMFS incorrectly assuming that the Innomar SBP operates at a repetition rate of 0.5 Hz, or every 2 sec, rather than at 40 Hz and every 0.025 sec, which is consistent with all previous incidental harassment authorizations involving the Innomar SBP (e.g., Table 2 in 85 Fed. Reg. 31858). The pulse duration for the Innomar SBP also ranges from 0.7 to 2 msec rather than 0.7 to 1 msec as described by Dominion. Accurate repetition rates and pulse durations must be used if NMFS intends to estimate associated Level A harassment zones.
- NMFS including various subsea positioning systems (Sonardyne USBL, Evologics 82CR (Evologics), and ixBlue Gaps) in Tables 1 and 5 of the *Federal Register* notice but not providing the relevant Level A and B harassment zones in Table 6<sup>18</sup> and 7, respectively. The Level A and B harassment zones for the three subsea positioning systems are greater than some of the other equipment listed in Tables 6 and 7 of the notice. The relevant Level A and B harassment zones must be specified if NMFS estimated the zones and did not intend to discount the sources.

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<sup>17</sup> Which generally are termed difference frequencies rather than ‘secondary low’ frequencies by Innomar.

<sup>18</sup> Table 6 also includes Level A harassment zones for otariids that do not occur in the Northwest Atlantic Ocean.

- NMFS inconsistently describing the frequency range of the EdgeTech 4200 dual frequency (EdgeTech) side-scan sonar. In Table 1 of the *Federal Register* notice, NMFS indicated that the operating frequencies of the EdgeTech side-scan sonar were 300 and 600 kHz and, since it operated above 180 kHz, it was not considered in Tables 6 and 7 (see footnotes 2 and 1, respectively). However, NMFS included the EdgeTech side-scan sonar, along with the other sources for which Level A harassment zones were estimated, in Table 5<sup>19</sup> and specified that the weighting factor adjustment was 100 kHz. The appropriate operating frequency of the sources must be used and any source that is discounted must be consistently noted as such throughout the *Federal Register* notices.
- Neither Dominion nor NMFS using NMFS's user spreadsheet for Level B harassment, which resulted in overestimated Level B harassment zones for the subsea positioning systems and the EdgeTech 216 Chirp<sup>20</sup> in Table 7 of the notice. NMFS should be using, or at the very least validating, the Level B harassment zones provided by applicants with its user spreadsheet.

The Level B harassment zones are less than 25 m for all sources, except for the 100-m zone for the GeoMarine Dual 400 Geo-Source sparker 800J (GeoMarine sparker). The Level A harassment zones for the Innomar SBP, however, extend to 3,950 m for high-frequency (HF) cetaceans<sup>21</sup>—a zone that is both inaccurate based on the presumed parameters and completely unrealistic. Had NMFS assumed the actual 40-Hz repetition rate and 20 msec pulse duration, the Level A harassment zone estimated from NMFS's user spreadsheet would be *more than 316 km*. Both of those zones should prompt NMFS to question whether it is appropriate to be using its user spreadsheet for these types of sources<sup>22</sup>.

NMFS indicated that the Level A harassment zone is highly unlikely, particularly since the Level B harassment zone is 0.7 m, and that the calculated Level A harassment zones should not be interpreted literally (85 Fed. Reg. 36554). NMFS further stated that the Level A harassment zones were “provided only as a reference” and “interpreted in context of our qualitative understanding of the risk posed...and in consideration of the proposed mitigation measures” (85 Fed. Reg. 36554). The Commission disagrees. Level A harassment zones are in fact intended to be interpreted literally, particularly for moving sound sources (such as HRG survey equipment) and inaccurate Level A harassment zones should not be provided “as a reference”. NMFS's *Federal Register* notices and proposed and final authorizations must be based on best available science and consideration needs to be given as to whether the information contained therein would be precedent-setting. In this instance, denoting the inaccurate and unrealistic Level A harassment zone brings into question both the validity of NMFS's Level A harassment thresholds and the utility of its user spreadsheet, which clearly was not NMFS's intent.

The Commission also notes that, in another recent proposed (85 Fed. Reg. 14903) and final authorization (85 Fed. Reg. 30930)<sup>23</sup>, NMFS had discounted fully some of the HRG sources (i.e.,

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<sup>19</sup> Table 5 also omitted the upper end of the frequency range of 3 kHz for the Applied Acoustics S-boom (AA boomer) upon which the Level A harassment zones are based in Table 6.

<sup>20</sup> The Level B harassment zone would be 8.4 rather than 10.2 m.

<sup>21</sup> JASCO Applied Sciences (USA) Inc. had previously estimated the Level A harassment zone to be 60 m for HF cetaceans, which itself is an overestimate.

<sup>22</sup> While not accounting for absorption or beam width.

<sup>23</sup> Issued to Dominion on 21 May 2020.

Innomar SBP and Sonardyne USBL) Dominion indicated it would use. Specifically, NMFS indicated that it had determined the likelihood of HRG surveys resulting in harassment of marine mammals to be so low as to be discountable and therefore HRG surveys were not analyzed further (85 Fed. Reg. 30930). It is unclear why NMFS did not apply the same assumptions and findings, which pertain to the same sources and very same applicant in this instance.

In its [26 June 2020 letter](#), the Commission called attention to the need for NMFS to be consistent and transparent in the manner in which it estimates Level A and B harassment zones for HRG surveys. If NMFS intends to continue to estimate both Level A and B harassment zones associated with HRG surveys, the Commission recommends that NMFS (1) specify the references for all source levels and use consistent source levels for the same equipment that operates under the same parameters amongst the various action proponents, (2) use appropriate pulse durations and repetition rates, (3) pair source levels with the appropriate operating frequencies, and (4) consistently discount sources both within the same *Federal Register* notice and among the notices. The Commission also recommends that NMFS use its revised user spreadsheet, in-beam source levels, the actual beamwidth, and the maximum water depth in the survey area to estimate the Level B harassment zones for *all* future proposed authorizations involving HRG sources. Given that the Level A harassment zones estimated by NMFS are wildly inaccurate and NMFS consistently asserts that Level A harassment is ‘so low as to be discountable’ even when those zones are estimated to be 3,950 m (85 Fed. Reg. 31874) *and* the shutdown zones don’t encompass the full extents of the Level A harassment zones<sup>24</sup>, the Commission questions why NMFS continues to estimate Level A harassment zones for these sources. To maximize efficiencies and ensure that best available science is being used, the Commission recommends that NMFS consult with its acoustic experts<sup>25</sup> to determine how to estimate Level A harassment zones accurately, what Level A harassment zones are actually expected, and whether it is necessary to estimate Level A harassment zones for HRG surveys in general.

*In-situ measurements and standardized methods*—The Commission again notes that in-situ measurements of the same sources conducted off the east coast of the United States during previous HRG surveys indicate that the Level B harassment zones are in fact quite small, 27 m or less (e.g., Gardline 2016), for sparker including the GeoMarine Geo-Source sparker 800J (GeoMarine sparker). In response to the Commission’s [23 August 2019 letter](#) recommending that NMFS use in-situ measurements, NMFS indicated that discrepancies between in-situ measurements and data from Crocker and Fratantonio (2016) likely were due to the beam pattern of many HRG sources and the fact that measurements likely were taken outside the main lobe of the source (84 Fed. Reg. 52465). The Commission agrees that that issue may exist for some sources, but it does not exist for sparker that are omnidirectional.

A previously perceived issue with in-situ measurements from a sparker may have resulted from the hydrophone clipping the data in the nearfield, which was discussed by Gardline (2016).

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<sup>24</sup> The shutdown zones exceed the Level A harassment zones for all functional hearing groups except HF cetaceans. NMFS generally states that HF cetaceans avoid vessels such that Level A harassment is not likely to occur (e.g., 85 Fed. Reg. 31874). It is unclear why that assumption was not included in the *Federal Register* notice for Dominion’s proposed activities.

<sup>25</sup> Those personnel with expertise and formal training in underwater acoustics and bioacoustics.

Gardline used a high sound pressure level hydrophone to capture the nearfield measurements<sup>26</sup>. Figure D.1 in Gardline (2016)<sup>27</sup> shows that the measured sound levels at approximately 140 m were approximately 140 dB re 1  $\mu$ Pa or less and were not affected by hydrophone clipping. The Level B harassment zones were estimated to be 27 m or less for the GeoMarine sparker by Gardline (2016), which is much less than the estimated 100-m Level B harassment zone.

The Commission maintains that many of the in-situ measurement issues<sup>28</sup> could be minimized with proper methodological requirements and signal processing standards, particularly for omnidirectional sources, and that those measurements should be informing any incidental harassment authorizations NMFS intends to issue. To ensure that *in-situ* data are collected and analyzed appropriately, the Commission again recommends that NMFS and BOEM expedite efforts to develop and finalize methodological and signal processing standards for HRG sources. Those standards should be used by action proponents that conduct HRG surveys and that either choose to conduct in-situ measurements to inform an authorization application or are required to conduct measurements to fulfill a lease condition set forth by BOEM.

*Applicability of the shutdown zones*—As noted previously herein (see footnote 6), the shutdown zones specified by NMFS are inconsistent between the *Federal Register* notice (85 Fed. Reg. 36557) and the draft authorization (condition 4(c)). The Commission assumes that the zones included in the *Federal Register* notice are the correct ones, specifically a 500-m shutdown zone for North Atlantic right whales, a 100-m shutdown zone for other large cetaceans, and a 25-m shutdown zone only when the AA boomer is used. Based on the 500- and 100-m shutdown zones, NMFS discounted the estimated Level B harassment takes for North Atlantic right whales, humpback whales, fin whales, sei whales, sperm whales, and minke whales. The Commission agrees with that approach and recommends that NMFS follow a consistent approach and discount Level B harassment takes for those species in which the shutdown zones are equal to or greater than the Level B harassment zones for *all* draft and final authorizations involving HRG surveys.

However, the utility of the 25-m shutdown zone<sup>29</sup> for the AA boomer is questionable. The Level A harassment zones are 0.2 m for mid-frequency cetaceans and 3.5 m for phocids. If a marine mammal is within 4 m of the source, there is greater chance that the animal will be struck by the vessel than incur a permanent threshold shift. Conversely, the 25-m shutdown zone does not encompass the Level A harassment zone of 54 m for HF cetaceans. Thus, NMFS's 25-m shutdown zone appears arbitrary, as well as unnecessary based on BOEM's lease requirements. BOEM's lease requires that Dominion remain at least 50 m from delphinoid cetaceans and 100 m from non-delphinoid cetaceans and pinnipeds to minimize the possibility of vessel strike (see conditions 4.1.1.5 and 4.1.1.4, respectively in Addendum C of BOEM's lease). Furthermore, BOEM's lease requires that Dominion implement a 200-m shutdown zone for all species except North Atlantic right whales during HRG surveys (see condition 4.3.6.1). If BOEM's lease conditions remain in effect or modified conditions are implemented such that the shutdown zones are equal to or greater than the Level B harassment zones, the Commission recommends that NMFS implement the same

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<sup>26</sup> Which were used to inform the waveform and to validate the near-field digital signal processing scaling implemented by Gardline (2016; see section 2.3.2).

<sup>27</sup> Figure 3.3 in Gardline (2016) and Figure 1 in Gardline (2017) show similar results as well.

<sup>28</sup> Including contractors geo-referencing the source relative to the hydrophone, the hydrophone clipping the sound, and signal processing issues.

<sup>29</sup> Which does not apply to mysticetes or sperm whales.

approach that it proposed for mysticetes and sperm whales by discounting the Level B harassment takes for the relevant species and, if this approach applies to all species for which NMFS planned to issue an incidental taking authorization, inform Dominion that an incidental taking authorization is not required. However, if BOEM's lease conditions are modified such that the shutdown zones are less than the Level B harassment zones *and* NMFS intends to minimize Level A harassment by requiring Dominion to implement appropriately-sized shutdown zones, the Commission recommends that NMFS require Dominion to implement a shutdown zone of at least 55 m for harbor porpoises based on the 54-m Level A harassment zone estimated by NMFS for the AA boomer.

### **HRG surveys in general**

Many of the HRG sources<sup>30</sup> have been considered *de minimis* sources<sup>31</sup> by NMFS in other incidental harassment authorizations and rulemakings. Thus, it is unclear why those sources, such as parametric SBPs, continue to be considered in HRG-related authorizations. The Commission recommends that NMFS evaluate the impacts of sound sources consistently across all applications and provide notice in its guidance to applicants and to the public regarding those sources that it has determined to be *de minimis*. The Commission also again recommends that NMFS consider whether, in situations involving HRG surveys<sup>32</sup>, incidental harassment authorizations are necessary given the small size of the Level B harassment zones, the various proposed shutdown requirements, and BOEM's lease-stipulated requirements<sup>33</sup>. Specifically, NMFS should evaluate whether taking needs to be authorized for those sources that *are not* considered *de minimis*<sup>31</sup>, including sparkers<sup>34</sup>, *and* for which implementation of the various mitigation measures should be sufficient to avoid Level B harassment takes.

In addition, the Commission has noted informally and formally various errors and inconsistencies in estimating the extents of the Level A and B harassment zones for numerous incidental harassment authorizations, including those involving HRG surveys. It is apparent that dealing with technical and quantitative aspects of authorizations involving HRG surveys is a challenge for NMFS and time-consuming for both NMFS and the Commission. The Commission questions whether, rather than attempting to focus on activities that at most result in Level B harassment zones of 100 m, NMFS's efforts would be better focused on the actual construction phase of wind development, which has considerably more potential to impact the various marine

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<sup>30</sup> NMFS mischaracterized a previous recommendation made by the Commission that *all* HRG sources should be considered *de minimis* (84 Fed. Reg. 66159). Some are considered *de minimis*, while others are not. However, the impacts of those sources would be mitigated based on the implementation of shutdown requirements and lease-stipulated exclusion zones.

<sup>31</sup> Defined as sources that have low source levels, narrow beams, downward-directed transmission, short pulse lengths, frequencies outside known marine mammal hearing ranges, or some combination of those factors (84 Fed. Reg. 37244).

<sup>32</sup> And until it revises its 160-dB re 1  $\mu$ Pa threshold for intermittent, non-impulsive sources.

<sup>33</sup> In this case, Dominion indicated in its application that it would use night-vision, infrared, and PAM technologies to mitigate takes during nighttime operations and periods of low visibility (e.g., fog) based on requirements in BOEM's lease.

<sup>34</sup> The Commission notes that the Level B harassment zone for the boomer was 22 m and less than 10 m for all of the other sources proposed for use. All such zones are less than the 25-m distance that NMFS assumed would not have the potential to result in marine mammal harassment in Dominion's proposed and final authorization from earlier this year (85 Fed. Reg. 14903 and 30930, respectively).

mammal species. Regardless, NMFS must conduct more thorough reviews of future *Federal Register* notices and draft and final authorizations to minimize inaccuracies and inconsistencies and ensure transparency for the public.

### **Mitigation, monitoring, and reporting requirements**

Recent authorizations<sup>35</sup>, including this one, have proposed a change in NMFS's longstanding requirement that action proponents *immediately* report to NMFS any unauthorized injury or mortality, including when caused by a vessel strike, *and* cease operations until they have consulted with NMFS. In this case, NMFS has not specified that Mayflower must cease operations until it has consulted with NMFS. In response to previous comments by the Commission regarding this apparent change, NMFS indicated that it does not agree that a blanket requirement for project activities to cease would be practicable for a vessel that is operating on the open water, and it is unclear what mitigation benefit would result from such a requirement in the event of a vessel strike (or presumably other injury; 85 Fed. Reg. 26944). In response, the Commission suggests that an evaluation of the circumstances associated with the injury or mortality would prove helpful in developing additional mitigation measures. For example, if the injury or mortality were to occur while the vessel was transiting at higher speeds, NMFS might require that the operator implement lower speeds during transit. If the injury or mortality were to involve a dolphin, NMFS might no longer allow operators to continue operations if delphinids are present. The rationale for ceasing operations until the circumstances of the unauthorized taking can be reviewed is to determine whether additional mitigation measures should be taken to minimize the likelihood of additional prohibited takes. The Commission therefore recommends that NMFS require Mayflower to report as soon as possible *and* cease project activities immediately in the event of an unauthorized injury or mortality of a marine mammal, including from a vessel strike, until NMFS's Office of Protected Resources and the New England/Mid-Atlantic Regional Stranding Coordinator determine whether additional measures are necessary to minimize the potential for additional unauthorized takes.

### **Proposed one-year authorization renewals**

In this instance and consistent with previous Commission recommendations, NMFS stipulated that a renewal is a *one-time opportunity* (a) in the *Federal Register* notice (see 85 Fed. Reg. 36562), (b) on its webpage(s) detailing the renewal process (see the revised webpages<sup>36</sup>), and (c) in its draft authorization for the Dominion (see condition 8<sup>37</sup>). Although the Commission expects that this tack will be taken for *all* proposed and final incidental harassment authorizations that include the possibility of a renewal, it still has ongoing concerns regarding NMFS's renewal process. Those concerns can be reviewed in its [10 February 2020](#) letter. As such, the Commission again recommends that NMFS refrain from issuing renewals for any authorization and instead use its abbreviated *Federal Register* notice process, which is similarly expeditious and fulfills NMFS's intent to maximize efficiencies.

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<sup>35</sup> See final issuance notices for HRG surveys for Atlantic Shores (85 Fed. Reg. 21201), Vineyard Wind (85 Fed. Reg. 26944), and Dominion (85 Fed. Reg. 30936), and the proposed issuance notice for an HRG survey for Mayflower (85 Fed. Reg. 31879).

<sup>36</sup> See <https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act> and <https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-harassment-authorization-renewals>.

<sup>37</sup> <https://www.fisheries.noaa.gov/webdam/download/107318912>.

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Please contact me if you have questions regarding the Commission's recommendations.

Sincerely,



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

cc: Amy Scholik-Schlomer, NMFS  
Stan Labak, BOEM

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July 17, 2020

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**Re: Comments on Draft Incidental Harassment Authorization for Site Characterization Surveys in the OCS-A-0483 Lease Area and the Coastal Waters off Virginia**

Ms. Harrison,

The Southern Environmental Law Center (“SELC”) submits these comments on behalf of Natural Resources Defense Council, National Wildlife Federation, Conservation Law Foundation, Defenders of Wildlife, Whale and Dolphin Conservation, Surfrider Foundation, the Nature Conservancy, Sierra Club Virginia Chapter, Assateague Coastal Trust, Mass Audubon, NY4WHALES, the International Marine Mammal Project of Earth Island Institute, and Inland Ocean Coalition, in response to the National Marine Fisheries Service’s (“NMFS”) proposal to issue an incidental harassment authorization (“IHA”) to Dominion Energy Virginia (“Dominion”), for marine site characterization surveys off the coast of Virginia in the area of Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf (OCS-A-0483) (“the Lease Area”), and in the coastal waters off Virginia where a “cable corridor” will be established (collectively termed “Project Area”), in support of the Coastal Virginia Offshore Wind (“CVOW”) Commercial Project.<sup>1</sup>

Dominion proposes to conduct high-resolution geophysical (“HRG”) and geotechnical surveys for purposes of site characterization and project design of the CVOW Commercial Project. These activities are set to commence “as soon as possible” and will last for a period of 161 days.<sup>2</sup> Dominion plans to run two survey vessels concurrently within the 122,799-acre Lease Area, which lies 27 nautical miles off the coast of Virginia Beach, and along the “cable corridor” between the Lease Area and coastal Virginia.

This is an exciting moment for offshore wind in Virginia, and we recognize and celebrate the contribution that the offshore wind projects associated with these surveys could make in providing clean energy for the state and region. Once completed in 2026, Dominion’s 2,640-megawatt CVOW Commercial Project would provide enough electricity to power up to 650,000

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<sup>1</sup> Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Marine Site Characterization Surveys Off of Coastal Virginia, 85 Fed. Reg. 36,537 (June 17, 2020).

<sup>2</sup> *Id.* at 36,538.

homes in Virginia.<sup>3</sup> It is our view that wind energy will continue to be a vital part of our nation's energy mix, and we applaud the steps Virginia is taking to address climate change and to support offshore wind and clean energy development. In addition to rich wind resources, the waters off the coast of Virginia represent an area of important marine mammal habitat. This habitat and the health of marine mammals will continue to be threatened by changes in the ocean environment brought on by climate change, further underscoring the need to transition away from reliance on fossil fuels.

It is our view that, as offshore wind energy development moves forward, it must do so in an environmentally responsible manner, safeguarding vulnerable ocean habitat and wildlife. As offshore wind is a nascent industry in the United States, there is still much to learn about how it can be developed with appropriate mitigation measures to protect local wildlife. For example, given that underwater noise pollution disrupts marine mammal communication and can potentially drive marine mammals from areas critical to their feeding and migration, the agency must be especially careful to ensure that the proposed offshore wind development activities are done with the utmost consideration for the health of marine mammals and their habitats. This is particularly true given the dire population status of the North Atlantic right whale, which was just reclassified to Critically Endangered by the International Union for Conservation of Nature ("IUCN") Red List. The protections established by the agency for this project are likely to set the standard for further offshore wind development along the Atlantic coast in the years to come. The following comments are intended to support the advancement of offshore wind in a manner sustainable for marine wildlife, and particularly marine mammals.

Our organizations have a number of concerns pertinent to NMFS' "negligible impact" and "least practicable impact" determinations, and accordingly urge the agency to adopt the mitigation and monitoring requirements necessary to ensure adequate protections for North Atlantic right whales and other priority species. As detailed in the comments below, we highlight the following inconsistencies between the Proposed IHA and the Marine Mammal Protection Act ("MMPA"):

- In determining take numbers, NMFS relies on incomplete estimates of marine mammal abundance, distribution, and density for the U.S. East Coast;
- NMFS underestimates take numbers based on unfounded assumptions regarding acoustic thresholds and effectiveness of mitigation and monitoring measures;
- NMFS neglects to acknowledge the potential for Level A take from survey noise and vessel strike; and
- NMFS proposes to consider extending any one-year IHA with a truncated 15-day comment period, which is plainly contrary to the MMPA.

We accordingly recommend that the mitigation and monitoring measures in the Proposed IHA be modified as follows:

- NMFS should impose a seasonal restriction on site characterization activities that have the potential to injure or harass the North Atlantic right whale (i.e., source level

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<sup>3</sup> *Coastal Virginia Offshore Wind*, DOMINION ENERGY (last visited July 16, 2020), <https://www.dominionenergy.com/company/making-energy/renewable-generation/wind/coastal-virginia-offshore-wind>.

- >180 dB re 1  $\mu$ Pa (SPL) at 1-meter frequencies between 7 and 35 kHz<sup>4</sup>) from November 1 through April 30, to avoid the time period that poses the highest risk for North Atlantic right whales;
- HRG surveys should commence, with ramp-up, during daylight hours only, to maximize the probability that marine mammals are detected and confirmed clear of the exclusion zone;
  - NMFS should establish a standard 500-meter exclusion zone for *all* marine mammal species around surveys with noise levels that could result in injury or harassment of marine mammals, and, to the extent feasible, an extended 1,000-meter exclusion zone for North Atlantic right whales;
  - a combination of visual monitoring—by four protected species observers adhering to a two-on/two-off schedule—and passive acoustic monitoring should be used at all times that survey work is underway, and, for efforts that continue into the nighttime, night vision or infrared technology should also be used;
  - shutdown requirements should not be waived for bottlenose dolphins belonging to any stock, to protect the strategic and depleted stock of Western North Atlantic Southern Migratory Coastal bottlenose dolphin; and
  - all vessels operating *within* the Project Area should maintain a speed of 10 knots or less outside the period of November 1 and April 30, during which this speed limit should be extended to all vessels traveling *to and from* the Project Area. NMFS should also consider requiring that Dynamic Management Areas (“DMA”) become active anytime a single North Atlantic right whale is sighted or acoustically detected.

## I. BACKGROUND

### A. The Marine Mammal Protection Act

Congress enacted the MMPA because “certain species and population stocks of marine mammals are, or may be, in danger of extinction or depletion as a result of man’s activities.”<sup>5</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>6</sup> Congress intended for NMFS to act conservatively in the face of uncertainty when authorizing activities harmful to marine species.<sup>7</sup> This careful approach to management was necessary because of the vulnerable status of many species and because it is difficult to measure the impacts of human activities on marine mammals in the wild.<sup>8</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

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<sup>4</sup> As discussed in Section II.B, the best available science on other low- to mid-frequency sources indicates that Level B takes will occur with near certainty at exposure levels well below the 160 dB threshold that NMFS applies to behavioral impacts.

<sup>5</sup> 16 U.S.C. § 1361(1).

<sup>6</sup> *Id.* § 1361(2); *see also Conservation Council for Haw. v. Nat’l Marine Fisheries Serv.*, 97 F. Supp. 3d 1210, 1216 (D. Haw. 2016).

<sup>7</sup> H.R. Rep. No. 92-707 (Dec. 4, 1971), *as reprinted in* 1972 U.S.C.C.A.N. 4144, 4148.

<sup>8</sup> 16 U.S.C. § 1361(1), (3).

the high seas or in waters or on land under the jurisdiction of the United States.<sup>9</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>10</sup>

NMFS may grant exceptions to the take prohibition under the specific circumstances enumerated in the statute. Relevant here, the agency may authorize, for not more than a one-year period, the incidental, but not intentional, “taking by harassment of small numbers of marine mammals of a species or population stock” if the agency determines that such take would have only “a negligible impact on such species or stock.”<sup>11</sup> The agency must prescribe permissible methods of take 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>12</sup> NMFS must also establish monitoring and reporting requirements.<sup>13</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>14</sup>

## **B. Virginia’s Marine Mammals**

According to Dominion’s IHA Application for site characterization activities, at least 37 marine mammal species are known to occur in the marine and coastal waters off Virginia, including seven large and 26 small cetaceans, and four pinnipeds.<sup>15</sup> Of these marine mammal species, five large cetaceans (fin, sei, blue, sperm, and North Atlantic right whales) are listed as endangered under the Endangered Species Act (“ESA”) and as depleted and strategic stocks under the MMPA. One small cetacean species, the false killer whale, is designated as a strategic stock under the MMPA, and the Western North Atlantic Southern Migratory Coastal stock of bottlenose dolphin is designated as both a depleted and strategic stock under the MMPA. The various conservation statuses and seasonal presence of these species require particular consideration by NMFS when issuing an IHA to Dominion.

Despite what is presented in the following sections, data on seasonality and distribution of Virginia’s marine mammals, as well as those occupying the broader Mid-Atlantic region, are largely lacking when compared with other regions. As such, NMFS should take steps now to develop a dataset that more accurately reflects marine mammal presence so that it is in hand for future IHAs and other regulatory steps to advance offshore wind in the Mid-Atlantic. Specifically, we recommend that NMFS: 1) fund analyses of recently collected sighting and acoustic data for all data-holders; 2) continue to fund and expand surveys and studies to improve

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<sup>9</sup> *Id.* §§ 1362(13), 1371(a).

<sup>10</sup> *Id.* § 1362(18)(A).

<sup>11</sup> *Id.* § 1371(a)(5)(D)(i).

<sup>12</sup> *Id.* § 1371(a)(5)(D)(ii)(I).

<sup>13</sup> *Id.* § 1371(a)(5)(D)(ii)(III).

<sup>14</sup> *Id.* § 1371(a)(5)(D)(iii).

<sup>15</sup> DOMINION ENERGY, *Dominion Coastal Virginia Offshore Wind Commercial Project: Request for the Incidental Harassment of Marine Mammals Incidental to Survey Activities on the Outer Continental Shelf (OCS) within Lease OCS-A 0483 and the Associated Export Cable Corridor*, submitted to NMFS (May 11, 2020), <https://www.fisheries.noaa.gov/action/incidental-take-authorization-dominion-energy-virginia-marine-site-characterization-surveys> [hereinafter “Dominion IHA Application”], at Table 3-1. Inexplicably, NMFS determines that only 16 of the 37 species are likely to be affected by the proposed activity. 85 Fed. Reg. at 36,541, Table 2. NMFS should explain why the remaining 21 species are missing from its IHA analysis.

our understanding of distribution and habitat use of marine mammals off Virginia, including within and adjacent to the Project Area, as well as throughout the broader Mid-Atlantic region, in the very near future; and 3) take a “precautionary approach” with regard to siting and mitigation when permitting offshore wind activities in areas for which species distribution data are limited. Only then can the most accurate take numbers and most effective mitigation measures be established.

i. North Atlantic Right Whales

As the agency is aware, the conservation status of the North Atlantic right whale is dire. Although the species has been listed as endangered since the 1970s, recent scientific analysis confirms that the population has been declining since 2010 due to entanglements in commercial fishing gear and vessel strikes.<sup>16</sup> In the wake of an alarming number of human-caused deaths of North Atlantic right whales in 2017, NMFS declared an Unusual Mortality Event (“UME”) under the MMPA for all U.S. waters in which right whales occur,<sup>17</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 thirty-one whales are known to have been killed since 2017, and an additional ten animals have been documented with serious injuries from which they will not recover.<sup>18</sup> Two of the ten calves born in the latest calving season are already either confirmed or presumed dead due to vessel strikes, and their mothers have not been seen since.<sup>19</sup>

The loss of these forty-one animals represents roughly ten percent of the total population, which is now estimated at approximately 400 individuals.<sup>20</sup> Of these, no more than 95 are females of breeding age.<sup>21</sup> Females are more vulnerable than males to the lethal and sub-lethal effects of human activity, surviving to only 30-40 years of age with an extended inter-calf interval of approximately 10 years.<sup>22</sup> Furthermore, poor body condition of individuals within the population, compared with that of southern right whales, is of major concern for the future viability of the population.<sup>23</sup> The agency has recently named the North Atlantic right whale a “Species in the Spotlight,” indicating that they are among the nine marine species most at risk of

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<sup>16</sup> Richard M. Pace, III et al., *State-space mark-recapture estimates reveal a recent decline in abundance of North Atlantic right whales*, *ECOLOGY & EVOLUTION* (Sept. 18, 2017); Sarah M. Sharp et al., *Gross and histopathologic diagnoses from North Atlantic right whale *Eubalaena glacialis* mortalities between 2003 and 2018*, *DISEASES OF AQUATIC ORGANISMS* (June 20, 2019).

<sup>17</sup> *2017–2020 North Atlantic Right Whale Unusual Mortality Event*, NMFS (last visited July 10, 2020), <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2020-north-atlantic-right-whale-unusual-mortality-event>.

<sup>18</sup> *Id.*

<sup>19</sup> *North Atlantic Right Whale Calf Injured by Vessel Strike*, NMFS (Jan. 30, 2020), <https://www.fisheries.noaa.gov/feature-story/north-atlantic-right-whale-calf-injured-vessel-strike>; *Dead North Atlantic Right Whale Sighted off New Jersey*, NMFS (June 29, 2020), <https://www.fisheries.noaa.gov/feature-story/dead-north-atlantic-right-whale-sighted-new-jersey>.

<sup>20</sup> Heather Pettis et al., *North Atlantic Right Whale Consortium 2019 Annual Report Card*, N. ATL. RIGHT WHALE CONSORTIUM (Jan. 2020), <https://www.narwc.org/uploads/1/1/6/6/116623219/2019reportfinal.pdf>.

<sup>21</sup> Chris Oliver, *Immediate Action Needed to Save the North Atlantic Right Whales*, NMFS (July 3, 2019), <https://www.fisheries.noaa.gov/leadership-message/immediate-action-needed-save-north-atlantic-right-whales>.

<sup>22</sup> Pace et al., *supra* note 16; Peter Corkeron et al., *The recovery of North Atlantic right whales, *Eubalaena glacialis*, has been constrained by human-caused mortality*, *ROYAL SOC’Y OPEN SCI.* (Nov. 7, 2018).

<sup>23</sup> Fredrik Christiansen et al., *Population comparison of right whale body condition reveals poor state of the North Atlantic right whale*, *MARINE ECOLOGY PROGRESS SERIES* (Apr. 23, 2020).

extinction in the United States.<sup>24</sup> And just this month, the IUCN Red List reclassified the status of the species from Endangered to Critically Endangered, one step away from Extinction.<sup>25</sup>

Since 2010, North Atlantic right whale distribution and habitat use have shifted in response to climate change-driven shifts in prey availability and favorable oceanographic conditions.<sup>26</sup> Monitoring indicates that such shifts are being observed throughout much of their range,<sup>27</sup> and observes right whales spending more time in the Mid-Atlantic year-round.<sup>28</sup> In addition, as the Proposed IHA notes, North Atlantic right whales are now more widely distributed across all Atlantic coast regions throughout winter months.<sup>29</sup> A recent study detected North Atlantic right whales in the waters off Virginia on approximately 10 percent of days throughout the year.<sup>30</sup> Further, NOAA data suggest that there is a seasonal hot spot of *Centropagidae* copepod density, on which North Atlantic right whales feed, off the coast of Virginia in the summer.<sup>31</sup> Scientists predict that further range shifts of this nature will occur as water temperatures continue to rise from climate change.<sup>32</sup>

While North Atlantic right whales are increasingly present within the Project Area year-round, they are most consistently present at their highest densities from November through April, based on acoustic data<sup>33</sup> and aerial surveys.<sup>34</sup> This period captures both the southward migration from the species' northern feeding grounds to their southern calving grounds off the Carolinas, Georgia, and Florida in the fall and early winter, when pregnant females are likely to be traveling through the Lease Area, and the northward migration in the late winter and early spring, when mothers and calves are likely to be traveling through and adjacent to the Project Area. These months of elevated occurrence are supported by the period for which NMFS scientists have identified a Biologically Important Area ("BIA") for North Atlantic right whales.<sup>35</sup> This

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<sup>24</sup> *Endangered Species Conservation: Species in the Spotlight*, NMFS (last visited July 10, 2020), <https://www.fisheries.noaa.gov/topic/endangered-species-conservation#species-in-the-spotlight>.

<sup>25</sup> *Almost a third of lemurs and North Atlantic Right Whale now Critically Endangered - IUCN Red List*, INT'L UNION FOR CONSERVATION OF NATURE (July 9, 2020), <https://www.iucn.org/news/species/202007/almost-a-third-lemurs-and-north-atlantic-right-whale-now-critically-endangered-iucn-red-list>.

<sup>26</sup> Nicholas R. Record et al., *Rapid climate-driven circulation changes threaten conservation of endangered North Atlantic right whales*, OCEANOGRAPHY (May 3, 2019).

<sup>27</sup> Erin L. Meyer-Gutbrod et al., *Marine species range shifts necessitate advanced policy planning: The case of the North Atlantic right whale*, OCEANOGRAPHY (June 11, 2018).

<sup>28</sup> Genevieve E. Davis et al., *Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (Eubalaena glacialis) from 2004 to 2014*, NATURE SCI. REPORTS (Oct. 18, 2017).

<sup>29</sup> 85 Fed. Reg. at 36,542 (citing Davis et al., *id.*).

<sup>30</sup> Daniel P. Salisbury et al., *Right whale occurrence in the coastal waters of Virginia, U.S.A.: Endangered species presence in a rapidly developing energy market*, MARINE MAMMAL SCI. (Oct. 15, 2015).

<sup>31</sup> *Ecology of the Northeast US Continental Shelf: Zooplankton*, NAT'L OCEANIC AND ATMOSPHERIC ADMIN. (last visited July 10, 2020), <https://www.nefsc.noaa.gov/ecosys/ecosystem-ecology/zooplankton.html>.

<sup>32</sup> Davis et al., *supra* note 28.

<sup>33</sup> *See id.*; *see also* Salisbury et al., *supra* note 30. There is some indication that right whale densities start to increase as early as October; however, the authors conclude that the November 1<sup>st</sup> through April 30<sup>th</sup> period is when the majority of right whales are present.

<sup>34</sup> Sarah D. Mallette et al., *Occurrence of Baleen Whales along the Continental Shelf Region of the VACAPES OPAREA off Southern Virginia: Final Report*, NAVAL FACILITIES ENG'G COMMAND (NAVFAC) (July 2018), [https://www.navy-marinespeciesmonitoring.us/files/8415/3383/3682/Mallette\\_et\\_al.\\_2018\\_-\\_Occurrence\\_of\\_Baleen\\_Whales\\_along\\_the\\_Continental\\_Shelf\\_Region\\_of\\_the\\_VACAPES\\_OPAREA\\_off\\_southern\\_Virginia\\_-\\_Final\\_Report.pdf](https://www.navy-marinespeciesmonitoring.us/files/8415/3383/3682/Mallette_et_al._2018_-_Occurrence_of_Baleen_Whales_along_the_Continental_Shelf_Region_of_the_VACAPES_OPAREA_off_southern_Virginia_-_Final_Report.pdf) (finding that North Atlantic right whales were spotted during the winter and spring).

<sup>35</sup> Erin LaBrecque et al., *Biologically Important Areas for cetaceans within U.S. waters—East coast region*, AQUATIC MAMMALS (Mar. 2015).

Migratory Corridor BIA covers important migratory habitat stretching from Cape Cod Bay in Massachusetts to off central Florida, extending from the coast past the continental shelf break.<sup>36</sup>

The best available science therefore demonstrates that November 1 through April 30 represents the time period of highest risk to North Atlantic right whales off Virginia, based on times of highest relative density of animals and times when mother-calf pairs and pregnant females are expected to be present. That said, given that North Atlantic right whales are now detected during every month of the year in the Mid-Atlantic, and that NMFS has determined the species cannot sustain the loss of a single individual, there is a clear need for strong and effective mitigation measures to be in place year-round for the CVOW Commercial Project.

The identification of this heightened seasonal occurrence and risk is also consistent with the Seasonal Management Area (“SMA”), which overlaps with part of the cable corridor and applies vessel speed limits to waters extending 37 kilometers offshore from the entrance of Chesapeake Bay from November 1 through April 30 for purposes of vessel strike mitigation.<sup>37</sup> As discussed in more detail below (*see* Section II.C), North Atlantic right whales are particularly vulnerable to serious injury and mortality from vessel strikes. Moreover, some types of anthropogenic noise have been shown to induce near-surface positioning in North Atlantic right whales, increasing the risk of vessel strike at relatively moderate levels of exposure. Anthropogenic noise also increases stress hormones in right whales, which can impact their ability to reproduce and impair their immune systems.<sup>38</sup> It is possible that HRG surveys could produce the same effects, and should therefore be given proper consideration by the agency.

## ii. Other Large Whales

Nearshore Mid-Atlantic waters serve as an important migratory area for humpback and endangered fin whales, while more offshore waters are important migratory grounds for minke and endangered sei whales.<sup>39</sup> Humpback whales are increasingly sighted year-round in the waters off Virginia, and perhaps throughout the broader Mid-Atlantic region.<sup>40</sup> These waters, including those within the Lease Area and cable corridor, provide important seasonal foraging habitat for humpback whales.<sup>41</sup> Between-year sightings suggest that as many as 20 percent of identified juvenile humpback whales occur in a relatively small study area in consecutive years.<sup>42</sup>

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<sup>36</sup> *Id.*

<sup>37</sup> *Reducing Ship Strikes to North Atlantic Right Whales*, NMFS (last visited July 10, 2020), <https://www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-ship-strikes-north-atlantic-right-whales>.

<sup>38</sup> Rosalind M. Rolland et al., *Evidence that ship noise increases stress in right whales*. PROC. ROYAL SOC’Y B (Feb. 8, 2012).

<sup>39</sup> *Documenting Whale Migration off Virginia’s Coast: Virginia CZM Cooperative Agreement with the Virginia Aquarium*, NOAA (2014), <https://www.midatlanticocean.org/wp-content/uploads/2013/11/documenting-whale-migration-off-virginias-coast.pdf>.

<sup>40</sup> Alyson Fleming & Jennifer Jackson, *Global Review of Humpback Whales (Megaptera novaeangliae)*, NMFS (Mar. 2011), <https://repository.library.noaa.gov/view/noaa/4489>.

<sup>41</sup> Sarah D. Mallette et al., *Seasonality and site-fidelity of humpback whales off the Mid-Atlantic region of the U.S.* (2017) (poster presentation, Va. Aquarium & Marine Sci. Ctr. (VAMSC)), [https://www.navymarinespeciesmonitoring.us/files/5115/1941/4653/Mallette\\_SMM\\_2017\\_poster.pdf](https://www.navymarinespeciesmonitoring.us/files/5115/1941/4653/Mallette_SMM_2017_poster.pdf).

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

While not currently listed as depleted,<sup>43</sup> ongoing UMEs exist for the Atlantic populations of minke whales (since January 2017) and humpback whales (since January 2016). Ninety-two (92) minke whales have stranded between Maine and South Carolina from January 2017 to July 2020.<sup>44</sup> Some necropsies of have shown evidence of human interaction (i.e., vessel strike and entanglement), though more research is needed to determine the official causes of the UME.<sup>45</sup> Elevated numbers of humpback whales have also been found stranded along the Atlantic Coast since January 2016, and in a little over three years, 126 mortalities have been recorded (data through July 8, 2020), with strandings occurring in every state along the East Coast.<sup>46</sup> Virginia is the state with the second highest number of reported humpback strandings in the UME, likely due in part to elevated occurrences of vessel traffic in the area.<sup>47</sup> Indeed, NMFS' most recent Marine Mammal Stock Assessment Report shows that the majority of reported serious injury and mortality in the region were a result of vessel strikes, underscoring the risk of vessel traffic to humpback whales off the coast of Virginia.<sup>48</sup> The declaration of the three large whale UMEs by NMFS in the past few years, of which anthropogenic impacts may be a significant cause, demonstrates an increasing risk to large whales from human activities in this region, including those proposed by Dominion.

### iii. Small Cetaceans

In addition to endangered large whales, two strategic stocks of small cetaceans—false killer whales and the Western North Atlantic Southern Migratory Coastal stock of bottlenose dolphin—are found within the Project Area. While the Western North Atlantic stock of false killer whale was designated as strategic in 2014 because of mortality from fishery bycatch, no fishery-related mortality or serious injury has been observed in the last five years, and its strategic status is currently being proposed for removal.<sup>49</sup> The Western North Atlantic Southern Migratory Coastal stock of bottlenose dolphin is considered to be both strategic and depleted under the MMPA due to the number of annual human-caused mortalities and previous UMEs.<sup>50</sup>

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<sup>43</sup> While humpback whales are not considered depleted or strategic under the MMPA, there is reason to believe that they should be. According to the agency's own draft of the most recent Marine Mammal Stock Assessment Report, "[t]here is mounting evidence that humpback whales have been over PBR [Potential Biological Removal] for some time, and likely will be formally determined to be so in a future report. This is further supported by the NMFS declaration of Unusual Mortality Event No. 63.7..." *Draft Marine Mammal Stock Assessment Reports: U.S. Atlantic and Gulf of Mexico Draft Marine Mammal Stock Assessment*, NMFS (last visited July 10, 2020), <https://www.fisheries.noaa.gov/national/marine-mammal-protection/draft-marine-mammal-stock-assessment-reports> [hereinafter "2019 Draft Marine Mammal Stock Assessment"], at 163.

<sup>44</sup> *2017–2020 Minke Whale Unusual Mortality Event along the Atlantic Coast*, NMFS (last visited July 16, 2020), <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2020-minke-whale-unusual-mortality-event-along-atlantic-coast>.

<sup>45</sup> *Id.*

<sup>46</sup> *2016–2020 Humpback Whale Unusual Mortality Event Along the Atlantic Coast*, NMFS (last visited June 30, 2020), <https://www.fisheries.noaa.gov/national/marine-life-distress/2016-2020-humpback-whale-unusual-mortality-event-along-atlantic-coast>.

<sup>47</sup> Jessica M. Aschettino et al., *Satellite telemetry reveals spatial overlap between vessel high-traffic areas and humpback whales (Megaptera novaeangliae) near the mouth of the Chesapeake Bay*, FRONTIERS IN MARINE SCI. (Mar. 12, 2020).

<sup>48</sup> 2019 Draft Marine Mammal Stock Assessment, *supra* note 43, at 165-182.

<sup>49</sup> 2019 Draft Marine Mammal Stock Assessment, *supra* note 43, at 275.

<sup>50</sup> Sean A. Hayes et al., *U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments – 2017*, NMFS (Sept. 2018), <https://repository.library.noaa.gov/view/noaa/22730>, at 110-24.

The stock is commonly found in shallow waters off the Chesapeake Bay in the late summer months, but the precise boundaries of their migration vary from year to year.<sup>51</sup>

NMFS has identified a number of additional small cetacean species that have the highest likelihood of occurring in the Project Area and are expected to potentially be taken by the proposed activities. These include Atlantic spotted dolphins, Atlantic white-sided dolphins, common dolphins, short- and long-finned pilot whales, Western North Atlantic Offshore bottlenose dolphins, Risso's dolphins, and harbor porpoises.<sup>52</sup> Scientific research indicates seasonal and/or year-round presence of these species during the project period. During the warm summer months of June through August, Atlantic spotted dolphins are presumed to occupy coastal waters off Assateague, Virginia, including Chesapeake Bay.<sup>53</sup> From January through May, low numbers of white-sided and common dolphins are found off Virginia and the Carolinas.<sup>54</sup> Both species of pilot whale, the Western North Atlantic Offshore bottlenose dolphin stock, and the Risso's dolphin are more generally found further offshore along the continental shelf edge year-round,<sup>55</sup> yet some evidence suggests that long-finned pilot whales may move inshore during late summer and autumn months.<sup>56</sup> Passive acoustic monitoring regularly detects harbor porpoises from January through May off Maryland.<sup>57</sup>

#### iv. Pinnipeds

Two pinniped species of conservation concern are also found off Virginia during the project period: harbor and gray seals. While they are not listed under the ESA, nor considered strategic under the MMPA, a UME has been declared for these and two other seal species across the Northeast, extending as far south as Virginia. Due to infectious disease, 3,152 strandings have occurred since July 2018, including 10 in Virginia (data through March 13, 2020).<sup>58</sup> Harbor seals occur seasonally in coastal waters from southern New England to North Carolina from September through late May.<sup>59</sup> Seasonal distribution of gray seals in the Mid-Atlantic is less understood. Current population trends show abundance is likely increasing along the U.S. East Coast, although only strandings have been recorded off Virginia.<sup>60</sup>

HRG survey activities associated with marine site characterization have the potential to impact all of the above-mentioned species. Dominion's IHA Application notes: "Based on the

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<sup>51</sup> *Id.*

<sup>52</sup> 85 Fed. Reg. at 36,541, Table 2.

<sup>53</sup> Gordon T. Waring et al., *U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments – 2013*, NMFS (July 2014), <https://repository.library.noaa.gov/view/noaa/4757>, at 166.

<sup>54</sup> Hayes et al., *supra* note 50, at 77, 86.

<sup>55</sup> Sean A. Hayes et al., *U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments – 2018*, NMFS (June 2019), <https://repository.library.noaa.gov/view/noaa/20611>, at 74, 82; Sean A. Hayes et al., *U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments – 2016*, NMFS (June 2017), <https://repository.library.noaa.gov/view/noaa/14864>, at 120; Hayes et al. (2018), *supra* note 50, at 70.

<sup>56</sup> Randall R. Reeves et al. (eds.), *NAT'L AUDUBON SOC'Y GUIDE TO MARINE MAMMALS OF THE WORLD* 442 (2002).

<sup>57</sup> Jessica E. Wingfield et al., *Year-round spatiotemporal distribution of harbor porpoises within and around the Maryland Wind Energy Area*, PLOS ONE (May 3, 2017).

<sup>58</sup> *2018–2020 Pinniped Unusual Mortality Event Along the Northeast Coast*, NMFS (last visited July 8, 2020), <https://www.fisheries.noaa.gov/new-england-mid-atlantic/marine-life-distress/2018-2020-pinniped-unusual-mortality-event-along>.

<sup>59</sup> Hayes et al. (2019), *supra* note 55, at 121.

<sup>60</sup> *Id.* at 134, 131.

frequency ranges of the potential equipment to be used in support of the HRG survey activities[,] all but [two equipment types] operate within the established marine mammal hearing ranges and have the potential to result in Level A and B harassment of marine mammals.”<sup>61</sup> Elevated background noise can cause hearing damage, threshold shifts, masking, elevated stress, and behavioral disturbance in marine mammals, as described in the Proposed IHA.<sup>62</sup> The most likely and extensive effects of HRG surveys on large whales are behavioral responses, potentially resulting in the displacement of individuals out of important feeding or breeding areas or the disruption of communication important to life history functions.<sup>63</sup> Important here, migratory species have been known to avoid normal migratory paths when exposed to anthropogenic noise, leading to increased energy expenditure and potentially longer migratory times.<sup>64</sup>

## II. INCONSISTENCIES BETWEEN THE PROPOSED IHA AND THE MMPA

### A. NMFS Must Analyze All Data Sources When Calculating Marine Mammal Densities

In order to comply with the MMPA, NMFS must base its IHA analysis on the best available scientific information.<sup>65</sup> In determining the proportion of marine mammal species and populations taken by the proposed activities—a calculation that lies at the heart of the agency’s “small numbers” analysis—NMFS relies on estimates of marine mammal densities derived from the habitat-based density model produced by the Duke University Marine Geospatial Ecology Laboratory (“Roberts et al. model”).<sup>66</sup> While the Proposed IHA notes that the Roberts et al. model has been updated to incorporate additional data sources and two more years of data,<sup>67</sup> it still excludes data obtained through additional sightings databases, passive acoustic monitoring, and satellite telemetry. Notably, much of the survey data used to develop the model was collected prior to 2010 and therefore do not reflect the recent shift in North Atlantic right whale distribution, including the significant shifts observed during the past three years (2017-2019).

Moreover, the Roberts et al. model does not differentiate between species of pilot whale or seal, or between stocks of bottlenose dolphin.<sup>68</sup> That is, while the Proposed IHA separates marine mammals by species or by stock, the same accounting is used for each, and observations do not distinguish between species or stock. To make up for the general data, NMFS authorizes the total take for each stock of both bottlenose dolphins and all pilot whale and seal species. 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

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<sup>61</sup> Dominion IHA Application, *supra* note 15, at 7.

<sup>62</sup> 85 Fed. Reg. at 36,547.

<sup>63</sup> See, e.g., Brandon L. Southall et al., *Marine mammal noise exposure criteria: initial scientific recommendations*, AQUATIC MAMMALS (2007).

<sup>64</sup> See Christos Kolliatsas et al., OFFSHORE RENEWABLE ENERGY: ACCELERATING THE DEPLOYMENT OF OFFSHORE WIND, TIDAL AND WAVE TECHNOLOGIES 128-29 (2012).

<sup>65</sup> 16 U.S.C. §§ 1362(19), §§ 1362(27).

<sup>66</sup> Jason J. Roberts et al., *Habitat-based cetacean density models for the U.S. Atlantic and Gulf of Mexico*, NATURE SCI. REPORTS (Mar. 3, 2016).

<sup>67</sup> 85 Fed. Reg. at 36,556.

<sup>68</sup> “[Roberts et al.] produced density models to genus level for *Globicephala* spp. [pilot whales] and produced a density model for bottlenose dolphins that does not differentiate between offshore and coastal stocks.” *Id.* at 36542. “[Roberts et al.] produced density models for all seals and did not differentiate by seal species.” *Id.* at 36557.

stock, and to conclusory statements that no such effects are expected,” is inadequate.<sup>69</sup> We also note that the agency omits information on the “depleted” status of the Western North Atlantic Southern Migratory Coastal stock of bottlenose dolphin in the Proposed IHA, even though this designation was included in Dominion’s IHA Application.<sup>70</sup>

Miscalculation of take levels based on incomplete data could have serious implications for the future conservation status of these stocks. Because the density maps produced by the Roberts et al. model do not fully reflect the abundance, distribution, and density of marine mammals for the U.S. East Coast, they cannot be the only information source relied upon when estimating take. Integration of opportunistic sightings data and other sources of data that collect fine-scale information on factors driving marine mammal distribution with those gathered through systematic broad-scale surveys would better reflect current marine mammal presence, abundance, and density off Virginia, providing a more accurate assessment of Level B take.<sup>71</sup> Accordingly, NMFS must consider any data from State monitoring efforts,<sup>72</sup> passive acoustic monitoring data,<sup>73</sup> opportunistic marine mammal sightings,<sup>74</sup> and other data sources.

### **B. NMFS Should Not Adjust Take Numbers for Large Whales Based on Under-Protective Mitigation Measures**

According to the Proposed IHA, NMFS is choosing to adjust take numbers of endangered North Atlantic right whales and all other large whales to zero, as the proposed mitigation measures are “expected to preclude potential interactions” with, and “effectively prevent Level B harassment” of, these species.<sup>75</sup> Furthermore, the agency asserts that the 500-m exclusion zone for North Atlantic right whales exceeds the calculated Level B behavioral harassment zone.<sup>76</sup> While we appreciate NMFS’ refusal to authorize a single Level B take for the North Atlantic right whale, as is necessary given the species’ dire conservation status, we do not share the agency’s level of confidence that it is possible to mitigate all potential for Level B harassment through the implementation of an exclusion zone when North Atlantic right whales may nevertheless be present in the Lease Area. We are equally concerned in the case of large whales—humpback, fin, sei, sperm, and minke whales—all of which are either endangered or of conservation concern (*see* Section I.B.ii above).

Our reasons are threefold. First, the agency’s reliance on a 160 dB threshold for behavioral harassment is not supported by best available scientific information, which indicates that Level B takes occur with near certainty at exposure levels well below the 160 dB

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<sup>69</sup> *Conservation Council for Haw. v. NMFS*, 97 F. Supp. 3d 1210, 1223 (D. Haw. 2015).

<sup>70</sup> 85 Fed. Reg. at 36,541, Table 2.

<sup>71</sup> *See, e.g.,* Auriane Virgili et al., *Combining multiple visual surveys to model the habitat of deep-diving cetaceans at the basin scale*, GLOB. ECOLOGY & BIOGEOGRAPHY (Nov. 28, 2018).

<sup>72</sup> *E.g.,* NOAA, *supra* note 39; Mallette et al., *supra* note 34; Sarah D. Mallette et al., *Offshore Energy Planning for Marine Protected Species off of Virginia’s Coast: A Synthesis of Aerial Surveys in the Proximity of the Virginia Wind Energy Area (VA WEA) from 2012-2015*, VAMSC (2016), <https://www.deq.virginia.gov/Portals/0/DEQ/CoastalZoneManagement/FY14Task95-04-14.pdf>.

<sup>73</sup> *E.g.,* Davis et al., *supra* note 28; Salisbury et al., *supra* note 30.

<sup>74</sup> *E.g.,* *Dramatic Rescue of Endangered Whale Filmed by Fishermen*, THE TELEGRAPH (July 17, 2013), <https://www.telegraph.co.uk/news/earth/wildlife/10184397/Dramatic-rescue-of-endangered-whale-filmed-by-fishermen.html>.

<sup>75</sup> 85 Fed. Reg. at 36,557.

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

threshold.<sup>77</sup> In the most comprehensive meta-analysis of behavioral response studies conducted to date, mid-frequency cetaceans had the highest probability of low-, moderate-, and high-severity responses to mid-frequency sonar sources (whose frequencies substantially overlap with the systems used by Dominion) at received levels around 150 dB, with significant increases in probability beginning at 130 dB and some responses occurring below 110 dB.<sup>78</sup> Second, the agency relies on the assumption that marine mammals will take measures to avoid the sound<sup>79</sup> even though studies have not found avoidance behavior to be generalizable among species and contexts,<sup>80</sup> and even though avoidance may itself constitute take under the MMPA. Third, as discussed in Section III below, the mitigation and monitoring protocols prescribed by the agency are inadequate at protecting marine mammals and do not comply with the MMPA. In fact, the mitigation measures in the Proposed IHA are overall less protective than previous IHA authorizations for the region (*see* Section III.C), even as the conservation status of the North Atlantic right whale has worsened. Collectively, the agency's assumptions regarding acoustic thresholds and mitigation effectiveness are unfounded and cannot be used to justify any reduction in the number of takes expected.

### **C. NMFS Must Acknowledge that HRG Surveys and Vessel Strikes Can Result in Level A Take**

The use of certain HRG survey equipment has the potential to result in Level A take, and this risk is relatively greater for species in the high-frequency hearing band, such as the harbor porpoise. The agency acknowledges this fact in its calculation of the Level A harassment zone,<sup>81</sup> yet discounts the possibility that Level A take will occur.<sup>82</sup> In fact, in previous authorizations for HRG surveys, the agency has, “out of an abundance of caution,” authorized Level A take for this species and other high-frequency cetaceans.<sup>83</sup> It is arbitrary for the agency to impose less precautionary measures for this area that is home to a number of mid- and high-frequency hearing specialists which may be vulnerable to Level A take. Moreover, the proposed cable corridor includes shallow, coastal waters, which may increase the likelihood of animals becoming trapped between the sound source and the shore. The agency should therefore acknowledge the *potential* for Level A take from HRG surveys on small cetaceans, and

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<sup>77</sup> *See, e.g.,* Douglas P. Nowacek et al., *North Atlantic right whales (Eubalaena glacialis) ignore ships but respond to alerting stimuli*, PROC. ROYAL SOC'Y B (Dec. 3, 2003); Ronald A. Kastelein et al., *Threshold received sound pressure levels of single 1-2 kHz and 6-7 kHz up-sweeps and down-sweeps causing startle responses in a harbor porpoise (Phocoena phocoena)*, J. ACOUSTICAL SOC'Y AM. (Mar. 2012); Ronald A. Kastelein et al., *Behavioral response of a harbor porpoise (Phocoena phocoena) to 25.5- to 24.5-kHz sonar down-sweeps with and without side bands*, AQUATIC MAMMALS (Nov. 19, 2015).

<sup>78</sup> Catalina Gomez et al., *A systematic review on the behavioural responses of wild marine mammals to noise: The disparity between science and policy*, CAN. J. ZOOLOGY (Sept. 15, 2016).

<sup>79</sup> *See* 85 Fed. Reg. at, *e.g.*, 36,548 (“most marine mammals would more likely avoid a loud sound source rather than swim in such close proximity as to result in TTS [Temporary Threshold Shift]”).

<sup>80</sup> Patrick J.O. Miller et al., *Using at-sea experiments to study the effects of airguns on the foraging behavior of sperm whales in the Gulf of Mexico*, DEEP SEA RES. I, (July 2009); Enrico Pirotta et al., *Vessel noise affects beaked whale behavior: Results of a dedicated acoustic response study*, PLOS ONE (Aug. 2012).

<sup>81</sup> 85 Fed. Reg. at 36,554, Table 6.

<sup>82</sup> *Id.* (“...in consideration of the proposed mitigation measures..., the likelihood of the proposed survey resulting in take in the form of Level A harassment is considered so low as to be discountable...”)

<sup>83</sup> *See, e.g.,* Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Site Characterization Surveys Off the Coast of Massachusetts, 83 Fed. Reg. 22,443 (May 15, 2018).

reconsider its analysis of Level A take from HRG surveys on harbor porpoises and other acoustically sensitive species.

We are pleased that the Proposed IHA includes mitigation measures to avoid vessel strikes; however, it is our view that vessel impacts should also be incorporated into NMFS' take analysis. Vessel collisions are a leading cause of large whale injury and mortality and have been implicated as one of the major causes of death underlying the Atlantic large whale UMEs.<sup>84</sup> The number of recorded vessel collisions with large whales is likely to grossly underestimate the actual number of animals struck, as those struck but not recovered or thoroughly examined cannot be accounted for.<sup>85</sup> North Atlantic right whales are particularly prone to vessel strikes, given their slow speeds, overlapping range with shipping lanes, and extended time spent at or near the surface.<sup>86</sup> Some types of anthropogenic noise have been shown to *induce* near-surface positioning in North Atlantic right whales, increasing risk of vessel strikes.<sup>87</sup> It is possible that HRG surveys could produce the same effects, and should therefore be treated conservatively. The serious injury of two North Atlantic right whale calves by vessel strike this year alone, one of which resulted in documented mortality, demonstrates that vessel strikes pose an unacceptable risk to the species and can potentially occur even when very few whales are in the area.

In addition, relatively higher densities of humpback whales are found within high-traffic shipping lanes near the mouth of the Chesapeake Bay, indicating that vessel strike is a pertinent concern for this species.<sup>88</sup> Indeed, increased baleen whale sightings have occurred within the Bay, and have overlapped with the Project Area, over recent years<sup>89</sup> and vessel strike mortalities have also risen.<sup>90</sup> Given the demonstrated vulnerability of large whales to vessel collisions off the East Coast, and especially the mid-Atlantic, it is remiss of the agency to overlook vessel collisions as a source of potential take. The localized elevation in vessel activity occurring during marine site characterization surveys naturally increases the vessel collision risk for large whales in the area.

Our organizations understand that, based on past IHAs for marine site assessment and characterization activities, the vessels associated with the proposed activity will likely move at speeds well below 10 knots, meaning the risk of a lethal vessel collision during the surveys may be relatively low. However, the agency completely omits any information about estimated vessel speeds for the project. In the absence of such information, the agency cannot rule out the possibility that mortality or serious injury from vessel strikes could occur as a result of the proposed activity.

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<sup>84</sup> See NMFS, *supra* notes 17, 44, 46.

<sup>85</sup> See, e.g., Susan E. Parks et al., *Dangerous dining: Surface foraging of North Atlantic right whales increases risk of vessel collisions*, BIOLOGY LETTERS (Aug. 3, 2011).

<sup>86</sup> See *id.*

<sup>87</sup> Nowacek et al., *supra* note 77.

<sup>88</sup> See Mallette et al., *supra* note 41; see also Aschettino et al., *supra* note 47.

<sup>89</sup> Jessica M. Aschettino et al., *Mid-Atlantic Humpback Whale Monitoring, Virginia Beach, Virginia: 2017/18 Annual Progress Report*, NAVFAC (June 2018),

[https://www.navy-marine-species-monitoring.us/files/2415/3081/8453/Aschettino\\_et\\_al.\\_2018\\_-\\_Humpback\\_Whale\\_Tagging\\_2017\\_-\\_Final.pdf](https://www.navy-marine-species-monitoring.us/files/2415/3081/8453/Aschettino_et_al._2018_-_Humpback_Whale_Tagging_2017_-_Final.pdf).

<sup>90</sup> Mallette et al., *supra* note 34.

In addition, as noted in the Proposed IHA, studies indicate that noise can induce flight responses, behavioral disturbances, habitat avoidance, and stress responses which reduce feeding rates and reproductive success.<sup>91</sup> Because of this, survey noise can induce horizontal displacement, or movement into other areas.<sup>92</sup> This could push a North Atlantic right whale or other large whale out of a protected area and into an area with a greater risk of vessel collision, such as the shipping lanes entering the Chesapeake Bay. Given this, indirect vessel strike risk resulting from habitat displacement should be considered in NMFS' take analysis.

#### **D. The Proposed IHA Extension Process Does Not Comport with the Plain Language of the Statute**

In addition to the Proposed IHA, NMFS requests comments on the potential one-year renewal of this Proposed IHA, 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>93</sup> For several reasons, the undersigned organizations have 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 IHAs are valid for periods of not more than one year.<sup>94</sup> Second, the statute is plainly clear on the timing of when the agency must publish a proposed authorization (45 days after receipt of an application) and the duration of the public comment period (30 days after publication).<sup>95</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, stating: "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>96</sup> When NMFS adheres to this process, "the public is assured of the right to be informed of actions taken or proposed."<sup>97</sup> Third, the legislative history removes any doubt that this 30-day comment period applies even in cases where the IHA is extended for another year without change.<sup>98</sup>

Notably, NMFS supplies no legal rationale for why it is authorized to issue an identical IHA for a second year while cutting in half the comment period the statute requires. The agency lacks discretionary authority to interpret the statute other than as commanded by its plain language, whether by regulation, by policy, or on a permit-by-permit basis as it purports to do here.<sup>99</sup> Nor has NMFS supplied a sufficient explanation for why it might assert that the statutory language of Section 101(a)(5)(D)(iii) is ambiguous, such that the agency might appropriately

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<sup>91</sup> 85 Fed. Reg. at 36,549-50.

<sup>92</sup> E.g., Manuel Castellote et al., *Acoustic and behavioural changes by fin whales (Balaenoptera physalus) in response to shipping and airgun noise*, BIOLOGICAL CONSERVATION (Mar. 2012).

<sup>93</sup> 85 Fed. Reg. at 36,562.

<sup>94</sup> 16 U.S.C. § 1371(a)(5)(D)(i).

<sup>95</sup> *Id.* § 1371(a)(5)(D)(iii).

<sup>96</sup> H.R. Rep. No. 92-707, at 4151 (1972), *reprinted in* 1972 U.S.C.C.A.N. 4144, 4151.

<sup>97</sup> *Id.* at 4146.

<sup>98</sup> H.R. Rep. No. 103-439, at 29 (1994). "[I]n some instances, a request will be made for an authorization identical to one issued the previous year. In such circumstances, the Committee expects the Secretary to act expeditiously in complying with the notice and comment requirements."

<sup>99</sup> *See Chevron, U.S.A., Inc. v. Nat. Res. Def. Council (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.").

exercise its congressionally-delegated gap-filling authority to set forth a permissible interpretation of the statute that comports with the statute’s objectives.<sup>100</sup>

Finally, NMFS’ language about IHA Renewals on its website<sup>101</sup> does not provide a clear and legally adequate justification for its purported new reauthorization process, which allows interested members of the public only 15 calendar days to review and formulate comments. Given that this proposed change has appeared consistently in notices of draft IHAs for over a year now, NMFS apparently intends the new reauthorization process to become the rule rather than the exception. This change is not supported by law, and is further undermined by the fact that the agency has not gone through any public notice and comment or provided any rationale for its new process.

### **III. RECOMMENDATIONS FOR IMPROVED MITIGATION AND MONITORING**

In authorizing “take” by incidental harassment under the general authorization provision of the MMPA, NMFS must prescribe “methods” and “means of effecting the least practicable adverse impact” on marine mammals and set additional “requirements pertaining to the monitoring and reporting of such taking.”<sup>102</sup> In light of the aforementioned inconsistencies between the agency’s analysis and the requirements of the MMPA, NMFS has an obligation to impose robust avoidance, mitigation, and monitoring requirements to protect Virginia’s marine mammal species to the maximum extent practicable.

As noted above, the best scientific and commercial data available show that the North Atlantic right whale population cannot withstand the loss of a single individual, or any additional stressors. Any potential interruption of reproductive or migratory behavior may lead to population-level effects and is of critical concern. Given that North Atlantic right whales are present in the Project Area year-round, there is a clear need for strong mitigation measures on the activities covered by the IHA.

Our organizations agree with several of the mitigation and monitoring measures contained in the Proposed IHA. However, we believe that additional measures are necessary to more effectively avoid, minimize, and mitigate impacts to marine mammals. The current measures outlined in the Proposed IHA do not meet the standard of achieving the “least practicable adverse impact” on marine mammal populations. In the comments below, we address specific recommendations we have for improving these measures. These changes are critical to ensuring the protection of the North Atlantic right whale during Dominion’s proposed marine site characterization surveys.

#### **A. Seasonal Restrictions**

Dominion’s proposed survey activities are intended to commence “as soon as possible” and occur 24 hours per day for approximately 161 days, utilizing two survey vessels at any one

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<sup>100</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>101</sup> *Incidental Take Authorizations Under the Marine Mammal Protection Act*, NMFS (last visited July 10, 2020), <https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act>.

<sup>102</sup> 16 U.S.C. § 1371(a)(5)(D)(vi).

time.<sup>103</sup> This means that the proposed activities will continue well into the time period that poses the highest risk for North Atlantic right whales (i.e., November 1 to April 30). Given the extended duration and cumulative acoustic impact of the survey activities, we urge NMFS to prohibit site assessment and characterization activities that have the potential to injure or harass the North Atlantic right whale (i.e., source level >180 dB re 1 µPa (SPL) at 1-meter frequencies between 7 and 35 kHz) from November 1 to April 30.<sup>104</sup> These dates currently reflect both the best available scientific information on the relative density of North Atlantic right whales in the Mid-Atlantic, as well as the potential presence of pregnant females and mother-calf pairs (*see* Section I.B.i).

Time and area restrictions designed to protect certain species groups and habitats are one of the most effective available means to reduce the potential impacts of noise and disturbance on marine mammals.<sup>105</sup> Seasonal restrictions for pile driving and geophysical surveying formed a core component of a landmark agreement aimed at protecting the North Atlantic right whale from construction and site assessment and characterization activities in the Mid-Atlantic Wind Energy Areas that was reached between offshore wind developers and the environmental NGO community in 2012.<sup>106</sup> That said, 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. Moreover, changes in oceanographic conditions driven by climate change are rapidly impacting the habitat use and seasonal distribution of the species. Therefore, we recommend that robust and effective real-time monitoring and mitigation systems are in place to protect this species throughout the year (see the following sections for specific recommendations).

While existing and potential stressors to the North Atlantic right whale must be minimized as much as possible to promote the survival and recovery of the species, it is also incumbent upon the agency to address potential impacts to other imperiled whale species, particularly in light of the UMEs declared for humpback and minke whales (*see* Section I.B.ii). It is therefore imperative that consequences of the proposed North Atlantic right whale seasonal restriction on other protected species be fully addressed by the agency through the strong and

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<sup>103</sup> 85 Fed. Reg. at 36,538.

<sup>104</sup> Over a dozen wildlife conservation organizations have endorsed a suite of Best Management Practices (“BMP”) for the protection of the North Atlantic right whale during wind energy construction and operations of fixed foundation offshore wind projects off the U.S. East Coast. While the BMPs focus on construction and operations, the criteria to define times of highest risk are directly transferable to inform mitigation measures for site assessment and characterization activities. Conservation L. Found. et al., *Best Management Practices for North Atlantic Right Whales During Offshore Wind Energy Construction and Operations Along the U.S. East Coast* (Mar. 1, 2019), provided as Attachment 1.

<sup>105</sup> *See, e.g.*, Tundi Agardy et al., A global scientific workshop on spatio-temporal management of noise (Workshop, Puerto Calero, Lanzarote) (June 4-6, 2007), <http://www.pelagosinstitute.gr/en/pelagos/pdfs/Spatio-temporal%20management%20of%20noise.pdf>; Sarah J. Dolman et al., *Technical report on effective mitigation for active sonar and beaked whales*, EUR. CETACEAN SOC’Y (Apr. 20, 2009), [https://www.ascobans.org/sites/default/files/document/AC16\\_50\\_TechnicalReportSonarBeakedWhales\\_1.pdf](https://www.ascobans.org/sites/default/files/document/AC16_50_TechnicalReportSonarBeakedWhales_1.pdf); Convention on Biological Diversity, *Scientific synthesis on the impacts of underwater noise on marine and coastal biodiversity and habitats*, UNITED NATIONS (Mar. 12, 2012), [https://www.ascobans.org/sites/default/files/document/AC19\\_4-16\\_CBD\\_SBSTTA16\\_SynthesisUnderwaterNoise\\_1.pdf](https://www.ascobans.org/sites/default/files/document/AC19_4-16_CBD_SBSTTA16_SynthesisUnderwaterNoise_1.pdf).

<sup>106</sup> *See* Letter from Jeff Grybowski, Deepwater Wind, et al. to Maureen Bornholdt, BOEM (Dec. 12, 2012), [https://www.nrdc.org/sites/default/files/oce\\_12121101a.pdf](https://www.nrdc.org/sites/default/files/oce_12121101a.pdf).

protective mitigation measures noted below (e.g., a seasonal restriction may displace survey activities later in the year, which may increase levels of take for other species and populations, including juvenile humpback whales that show site fidelity to the survey area).

## **B. Temporal Restrictions**

Dominion proposes to conduct HRG survey activities continuously, 24 hours per day,<sup>107</sup> which has the potential to harass North Atlantic right whales and other marine mammals. To best minimize impacts to marine mammals, HRG surveys should only commence, with ramp-up, during daylight hours of adequate visibility to maximize the probability that North Atlantic right whales are detected and confirmed clear of the exclusion zone.<sup>108</sup> If the survey is begun during daylight hours, we do not oppose these activities continuing into the night; however, if the survey is shut down for any reason, developers should be required to wait until daylight hours and good visibility for surveying to resume.

Dominion has voluntarily proposed to employ additional agency-approved visual observers when HRG surveys are underway at night.<sup>109</sup> We do not share the agency's confidence that visual observers alone will be able to monitor the exclusion zone effectively during nighttime hours. We are deeply concerned that NMFS has proposed reliance upon visual observation as the primary means of detecting North Atlantic right whales and other marine mammals at night, while requiring neither night vision, infrared technology, nor real-time passive acoustic monitoring. This approach is wholly under-protective and places one of the world's most endangered marine species at unnecessary risk. Accordingly, NMFS must require, for efforts that continue into the nighttime, the use of night vision or infrared technology in combination with real-time passive acoustic monitoring and shutdown on acoustic detection.

We note that the effectiveness of night vision and infrared technology in detecting marine mammals in low-visibility conditions has not yet been tested and published for this region, and varying results are still being reported elsewhere.<sup>110</sup> This is particularly true for detecting North Atlantic right whales and minke whales,<sup>111</sup> both species of concern off Virginia. Recent research published this year indicates increasing promise for infrared technology as a mitigation tool, specifically at night during relatively calm conditions.<sup>112</sup> Accordingly, the agency should

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<sup>107</sup> 85 Fed. Reg. at 36,538.

<sup>108</sup> Except for seasonal restrictions, which are calculated based on presence of the highly endangered North Atlantic right whale, mitigation and monitoring measures should be in place when any technologies are operating within the frequency ranges that overlap with those of low-, mid-, and high-frequency cetaceans.

<sup>109</sup> 85 Fed. Reg. at 36,557.

<sup>110</sup> In general, night vision technology has not been widely used or tested for marine mammal monitoring, and is considered to be heavily affected by environmental conditions. The use of infrared technology, relying on thermal differences between the target species and the environment, as a mitigation tool is still in development. The reduced temperature differential between whale blow and the surrounding water expected to occur in the Mid-Atlantic, particularly during the spring and summer, in contrast to the far cooler high-latitude waters, is likely to negatively impact the detection effectiveness of infrared in this region. See Justin Lathlean & Laurent Seuront, *Infrared thermography in marine ecology: Methods, previous applications and future challenges*, MARINE ECOLOGY PROGRESS SERIES (Nov. 6, 2014).

<sup>111</sup> Christine Cuyler et al., *Thermal infrared radiation from free living whales*, MARINE MAMMAL SCI. (Apr. 1992).

<sup>112</sup> Heather R. Smith et al., *A field comparison of marine mammal detections via visual, acoustic, and infrared (IR) imaging methods offshore Atlantic Canada*, MARINE POLLUTION BULL. (Mar. 13, 2020); Daniel P. Zitterbart et al., *Scaling the laws of thermal imaging-based whale detection*, J. ATMOSPHERIC & OCEANIC TECH. (May 8, 2020).

consider the limitations of these systems and ensure that the detection of marine mammals is possible at distances out to and beyond the exclusion zones in this region prior to reliance on this evolving technology. Our organizations also recommend that NMFS encourage Dominion to collaborate with scientists in collecting data that would increase the understanding of the effectiveness of night vision and infrared technologies off Virginia and the broader Mid-Atlantic region, with a view towards utilizing these technologies to commence surveys at night in the future. In sum, overall detection rates are likely to be maximized when complementary monitoring methods are used.

### **C. Exclusion Zone Size**

The Proposed IHA specifies that the following marine mammal exclusion zones will be established around HRG equipment: 500 meters for North Atlantic right whales, and 100 meters for “large whale species” (i.e., humpback, fin, sei, sperm, and minke whales).<sup>113</sup> As an initial matter, our organizations are concerned that this leaves two small cetaceans of conservation concern—the false killer whale and the Western North Atlantic Southern Migratory Coastal bottlenose dolphin—without any exclusion zone protections. In addition, these measures are inconsistent with those required for similar activities in other Lease Areas, without explanation or justification. For example, during HRG surveys in the nearby Kitty Hawk Lease Area leased by Avangrid Renewables, the agency required a 200-meter exclusion zone for all large whales, including pilot whales and Risso’s dolphins.<sup>114</sup> NMFS does not explain why, for the same activities being conducted less than 25 miles away, a smaller exclusion zone protecting fewer species is warranted. Further, the agency appears to offer no protection for harbor porpoises in its exclusion zone requirements here, even though the species has been proven extremely sensitive to noise, and similar IHAs issued in the past have implemented an exclusion zone for this species.<sup>115</sup> We are worried that these inconsistencies leave a number of species of conservation concern without adequate protection.

Our organizations believe that the definition of exclusion zone radii based on the acoustic thresholds laid out in the NMFS technical guidance document significantly underestimates the area in which marine mammals may experience noise at levels capable of causing behavioral harassment. Any potential harassment of the North Atlantic right whale is of particular concern. We therefore urge a clearance zone of 500 meters in all directions for *all* marine mammals around vessels conducting activities with noise levels that could result in injury or harassment to these species,<sup>116</sup> and, to the extent feasible, 1,000 meters for North Atlantic right whales.

### **D. Exclusion Zone Monitoring**

NMFS proposes to require that the exclusion zones be monitored by visual observation alone, through the use of only one visual observer during daytime operations and two visual

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<sup>113</sup> 85 Fed. Reg. at 36,557.

<sup>114</sup> Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Site Characterization Surveys off the Coast of North Carolina, 84 Fed. Reg. 17,384 (Apr. 25, 2019).

<sup>115</sup> See, e.g., Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Marine Site Characterization Surveys Off of Rhode Island and Massachusetts, 83 Fed. Reg. 19,711 (May 4, 2018) (implementing a 25-m exclusion zone for harbor porpoises).

<sup>116</sup> Letter from J. Grybowski et al. to M. Bornholdt, *supra* note 104.

observers at night.<sup>117</sup> First and foremost, it is our view that a minimum of four protected species observers on duty, adhering to a two-on/two-off shift schedule, is needed to avoid a single observer being responsible for visually monitoring more than 180° of the exclusion zone at any given time.

Furthermore, visual observations are not enough. To maximize the probability of detection of marine mammals, experts say that comprehensive exclusion zone monitoring is essential.<sup>118</sup> One reason for this is because detectability of marine mammals is highly dependent on the species and behavior. Of particular concern, studies suggest that North Atlantic right whales exhibit behaviors that reduce the likelihood of detection by visual observers and thus often go undetected. For example, acoustic surveys have detected North Atlantic right whale vocal presence throughout the year and over the entire spatial extent of a study area in Massachusetts Bay,<sup>119</sup> even though visual surveys have rarely reported sightings of North Atlantic right whales in the winter off the coast of Massachusetts.<sup>120</sup> In fact, aerial surveys were found to detect North Atlantic right whales on only two-thirds of the days they were acoustically detected in Cape Cod Bay, Massachusetts, from 2001 to 2005.<sup>121</sup> Additionally, there is evidence that North Atlantic right whales stop vocalizing in the presence of anthropogenic noise,<sup>122</sup> or spend significantly more time at subsurface depths (i.e., 1-10 meters) compared to normal surfacing depths (i.e., within 1 meter of the surface),<sup>123</sup> when exposed to certain types of acoustic disturbance. These behavioral responses are likely to be heightened when whales are in the proximity of the acoustic disturbance from geophysical surveying, meaning that animals may be less detectable by visual observers during the project period relative to other times.<sup>124</sup>

In addition, there are sighting condition limitations that must be taken into consideration. For even the most conspicuous large whale species, studies demonstrate that increasing Beaufort Sea State reduces the probability of detecting large whales. Estimates of relative detection probability under a Beaufort Sea State of 6 is less than half that for a Beaufort Sea State of 0.<sup>125</sup> Of particular concern, 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

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<sup>117</sup> 85 Fed. Reg. at 36,557.

<sup>118</sup> See, e.g., Ursula K. Verfuss et al., *Comparing methods suitable for monitoring marine mammals in low visibility conditions during seismic surveys*, MARINE POLLUTION BULL. (Jan. 2018).

<sup>119</sup> Janelle L. Morano et al., *Acoustically detected year-round presence of right whales in an urbanized migration corridor*, CONSERVATION BIOLOGY (May 23, 2012).

<sup>120</sup> Howard E. Winn et al., *The distributional biology of the right whale (Eubalaena glacialis) in the western North Atlantic*, INT'L WHALING COMM'N (Jan. 1, 1986); Simon Pittman et al., *Cetacean distribution and diversity*, in AN ECOLOGICAL CHARACTERIZATION OF THE STELLWAGEN BANK NATIONAL MARINE SANCTUARY REGION, pp. 264-324 (Tim Battista et al. eds., 2006).

<sup>121</sup> Christopher W. Clark et al., *Visual and acoustic surveys for North Atlantic right whales, Eubalaena glacialis, in Cape Cod Bay, Massachusetts, 2001-2005: Management implications*, MARINE MAMMAL SCI. (May 9, 2010)

<sup>122</sup> See, e.g., Susan E. Parks et al., *Short- and long-term changes in right whale calling behavior: The potential effects of noise on acoustic communication*, J. ACOUSTICAL SOC'Y AM. (Jan. 31, 2008).

<sup>123</sup> Nowacek et al., *supra* note 77.

<sup>124</sup> Frances C. Robertson et al., *Seismic operations have variable effects on dive-cycle behavior of bowhead whales*, ENDANGERED SPECIES RES. (Aug. 13, 2013).

<sup>125</sup> 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. Jay Barlow, *Inferring trackline detection probabilities,  $g(0)$ , for cetaceans from apparent densities in different survey conditions*, MARINE MAMMAL SCI. (Jan. 4, 2015).

the Southwest Scotian Shelf.<sup>126</sup> Based on the data collected by the National Buoy Data Center, a monthly average Beaufort Sea State of 3 or 4 can be expected in close vicinity to the Lease Area year-round (see Table 1).<sup>127</sup> This is a salient consideration in the evaluation of whether a large whale can be accurately detected by visual observers alone. Based on the findings of Baumgartner et al. (2003), we would expect a reduction in detection probability of North Atlantic right whales by up to 84.5 percent under a Beaufort Sea State of 4, relative to ideal sighting conditions (i.e., Beaufort Sea State of 0).<sup>128</sup> Even under ideal sighting conditions, the detectability of large whales is likely to be significantly less than 100 percent given availability and perception biases other than those involving sea state.

*Table 1. Monthly average wave height and corresponding Beaufort Sea State recorded at NOAA National Data Buoy Station 44099 – Cape Henry, VA (147) in 2019. (Data source: NOAA National Data Buoy Center, accessed July 9, 2020)*

Month	Wave Height (m)	Beaufort Sea State
Jan	0.9	4
Feb	1.0	4
Mar	1.1	4
Apr	1.1	4
May	0.9	3
Jun	0.8	3
Jul	0.7	3
Aug	0.8	3
Sep	1.2	4
Oct	1.3	4
Nov	1.3	4
Dec	1.1	4

Thus, reliance on a single visual observer as the sole monitoring method is under-protective and should not be endorsed by the agency. Rather, a combination of (at a minimum) visual monitoring and passive acoustic monitoring should be implemented 24 hours a day.<sup>129</sup> Real-time passive acoustic monitoring should be undertaken in a manner that avoids masking of the North Atlantic right whale vocalizations by vessel noise, including by use of a system that is independent from the survey vessel if necessary. Research has demonstrated that passive acoustic monitoring can provide a two- to ten-fold increase in the number of days that North Atlantic right whales are detected relative to visual methodologies.<sup>130</sup> Aerial surveys would also

<sup>126</sup> Mark F. Baumgartner et al., *North Atlantic right whale habitat in the lower Bay of Fundy and on the SW Scotian Shelf during 1999-2001*, MARINE ECOLOGY PROGRESS SERIES (Dec. 15, 2003).

<sup>127</sup> See Online Database, *National Data Buoy Center*, NOAA (last visited July 8, 2020), <http://www.ndbc.noaa.gov/>.

<sup>128</sup> Baumgartner et al., *supra* note 126.

<sup>129</sup> We also support the inclusion of both broadband and low frequency hydrophones, which will ensure that vocalizations of North Atlantic right whales and other low- and mid-frequency vocalizing species can be detected.

<sup>130</sup> Melissa S. Soldevilla et al., *Passive acoustic monitoring on the North Atlantic right whale calving grounds*, ENDANGERED SPECIES RES. (Sept. 10, 2014). It is important to note that passive acoustic monitoring, while capable of significantly increasing detection rates, is not independently capable of detecting all whales in an area, for three reasons: 1) not all individuals continually vocalize, 2) individuals may stop vocalizing in the presence of noise (see

provide a useful supplement to increase detection probability. Detection of a North Atlantic right whale or any other marine mammal by any of these methods should trigger a shutdown or delay in the same way a visual detection would.

### **E. Shutdown Protocol**

We support the Proposed IHA's requirement for a 30-minute pre-clearance period (with ramp-up), and to immediately shut down survey activity upon the observation of a marine mammal.<sup>131</sup> Given that North Atlantic right whales and other large whales of conservation concern are known to use the areas within and around Project Area year-round, these measures are critical. We do not, however, agree with the proposal to waive this shutdown requirement for certain species of small delphinid.<sup>132</sup> We are particularly concerned that this exemption will leave the Western North Atlantic Southern Migratory Coastal stock of bottlenose dolphin, which is designated as both a depleted and a strategic stock, without adequate shutdown protections. NMFS should therefore remove *both* stocks of bottlenose dolphin from this exemption (as a protected species observer will not be able to distinguish between the two stocks of bottlenose dolphin present in this area).

### **F. Vessel Speed Limits**

As discussed in Section II.C above, vessel collisions remain one of the leading causes of large whale injury and mortality, particularly for North Atlantic right whales, and are a primary driver of the existing humpback and minke whale UMEs. The agency has a responsibility to implement mitigation measures to prevent any further vessel collisions for these species, as well as for other species of large whale (e.g., fin whales) that may be at potential future risk of experiencing an UME.

Our organizations support a mandatory speed restriction of 10 knots for all project vessels within any designated SMA or DMA for North Atlantic right whales.<sup>133</sup> The SMA located at the mouth of the Chesapeake Bay partially overlaps the cable corridor, and encompasses the time period during which the highest risk of North Atlantic right whale presence exists (*see* Section I.B.i). However, the recent death of a North Atlantic right whale calf off New Jersey<sup>134</sup> indicates how even single or pairs of animals are at risk of vessel strike year-round. Although the mother-calf pair had been sighted and acoustically detected, no voluntary vessel speed reduction areas were triggered under current DMA regulations. In light of this tragic event, a sighting of three or more North Atlantic right whales may be too high of a bar to trigger a DMA. NMFS should consider requiring DMAs in every instance that a single North Atlantic right whale is sighted or acoustically detected, not just aggregations of three or more whales.

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Parks et al. *supra* note 122); or 3) vocalizations may change during certain life history stages. *See* Susan E. Parks et al., *Acoustic crypsis in communication by North Atlantic right whale mother-calf pairs on the calving grounds*, BIOLOGY LETTERS (Oct. 9, 2019); Susan E. Parks et al., *North Atlantic right whale (Eubalaena glacialis) acoustic behavior on the calving grounds*, J. ACOUSTICAL SOC'Y AM. (July 10, 2019). As such, passive acoustic monitoring must be used in combination with other detection methods for mitigation purposes.

<sup>131</sup> 85 Fed. Reg. at 36,558.

<sup>132</sup> *Id.*

<sup>133</sup> *Id.*

<sup>134</sup> *See* NMFS, *supra* note 19.

We support the additional monitoring measures in place, including the presence of vessel-based observers and protocol for slowing down, stopping, and/or distancing vessels from detected marine mammals.<sup>135</sup> However, the proposed measures would allow project vessels to travel at speeds greater than 10 knots at all other times, unless “mother/calf pairs, pods, or large assemblages of cetaceans are observed near a vessel.”<sup>136</sup> This is insufficient. Research shows that a collision between a whale and a vessel of any length traveling above of speed of 10 knots has a more than 60 percent probability to result in a lethal strike.<sup>137</sup> This risk is likely higher for calves and juveniles. Our organizations therefore urge the agency to impose a 10-knot speed limit on all vessels, including survey and support vessels, operating *within* the Project Area during the entire survey period. The same speed restriction should be extended to all project-associated vessels transiting *to and from* the Project Area from November 1 through April 30, to avoid collisions with North Atlantic right whales.<sup>138</sup> Given that North Atlantic right whales may be in the Project Area year-round (*see* Section I.B.i), and that pregnant mothers and calves are likely to travel close to shore, these added protections are vital. Additionally, passive acoustic monitoring should be employed in all vessel transit lanes, to supplement the efforts of observers in visually detecting marine mammals.

#### IV. CONCLUSION

Our organizations are excited about the contribution that the CVOW Commercial Project will make in providing clean energy for the state and region. Marine mammal health and habitat will continue to be threatened by changes in the ocean environment brought on by climate change, further underscoring the need to transition to clean energy. For the above reasons, however, NMFS must revise its analysis to be consistent with the agency’s statutory obligations. Considering the elevated level of threat to all federally protected marine mammal species and populations in the mid-Atlantic, including the critically endangered North Atlantic right whale, and emerging evidence of dynamic shifts in the distribution of large whale habitat, NMFS must ensure that any potential stressors posed by the proposed activity are mitigated to effectuate the least practicable impact on affected species and stocks. It is our view that offshore wind projects can and must move forward in a manner that is protective of vulnerable marine wildlife. To that end, it is crucial that the agency afford special attention to the importance of the waters off Virginia to marine mammals when permitting offshore wind development activities in this region.

Thank you for your consideration of these comments.

Sincerely,

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<sup>135</sup> 85 Fed. Reg. at 36,558.

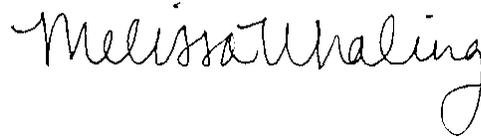
<sup>136</sup> *Id.*

<sup>137</sup> Paul B. Conn & Gregory K. Silber, *Vessel speed restrictions reduce risk of collision-related mortality for North Atlantic right whales*, ECOSPHERE (Apr. 2013).

<sup>138</sup> This measure should be considered in addition to the seasonal restriction on geophysical surveys recommended in Section III.A of this letter.



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[Attachment]