

By Electronic Mail

October 28, 2019

Ms. Jolie Harrison
Chief, Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910
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RE: Proposed Incidental Harassment Authorization for Marine Site Characterization Surveys Off of Delaware and Maryland.

Dear Ms. Harrison,

On behalf of the Natural Resources Defense Council, Conservation Law Foundation, National Wildlife Federation, Defenders of Wildlife, WDC North America, NY4WHALES, Surfrider Foundation, Mass Audubon, International Marine Mammal Project of the Earth Island Institute, and Wildlife Conservation Society, and our millions of members, we submit our recommendations on the National Marine Fisheries Service's ("NMFS") proposal to issue an incidental harassment authorization ("Proposed IHA") to authorize Skipjack Offshore Energy, LLC. ("Skipjack"), to conduct marine site characterization surveys off the coast of Delaware and Maryland in the area of the Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf (OCS-A 0519) ("Lease Area") and along potential submarine cable routes to a landfall location in Delaware or Maryland (collectively termed "Project Area"). *See* 84 Fed. Reg. 51,118 (Sep. 27, 2019).

This is an exciting moment for offshore wind in the Mid-Atlantic and we recognize and celebrate the contribution that the Skipjack Wind Project could make in providing clean energy for Maryland. It is our view that offshore wind energy can and must advance in an environmentally responsible manner. Offshore wind projects can help meet ambitious climate and clean energy goals in the region, while also safeguarding vulnerable ocean habitat and wildlife. In addition to rich wind resources, the waters off Delaware and Maryland seasonally support at least 17 species of marine mammals, including six large and nine small cetaceans, and two pinnipeds.¹ Of the six large whale species, four (sperm, fin, sei, and North Atlantic right whale) are listed as endangered under the U.S. Endangered Species Act ("ESA") and as depleted and strategic stocks under the Marine Mammal Protection Act ("MMPA"). North Atlantic right whales were recently added to NOAA Fisheries' list of "Species in the Spotlight" in recognition of

¹ 84 Fed. Reg. 51,123 at Table 2.

the fact the species is among the most at risk of extinction in the near future.² In addition, the Western North Atlantic Northern Migratory Coastal stock of bottlenose dolphin is “depleted” under the MMPA and is therefore considered to be a “strategic stock” by NMFS.³ While not currently listed as depleted, NOAA has declared an Unusual Mortality Event (“UME”) for protected humpback whales for which the highest relative number of mortalities have been recorded in the Mid-Atlantic region.⁴ The following comments are intended to support Skipjack in achieving its goal to advance offshore wind in a manner sustainable for wildlife, and particularly marine mammals.

Our organizations have a number of significant concerns related to NMFS’ negligible impact analysis and the avoidance, minimization, mitigation, and monitoring requirements that will be necessary to ensure adequate mitigation measures for endangered North Atlantic right whales, a species currently in decline as a result of human impacts, as well as other endangered and protected species. We strongly recommend that NMFS update the Proposed IHA to, at minimum, include the following protections, which focus specifically, including spatially and temporally, on the North Atlantic right whale:

- Require a seasonal restriction on site assessment and characterization activities in the Project Area that have the potential to injure or harass North Atlantic right whales (*i.e.*, source level >180 dB re 1 μ Pa)⁵ from at least November 1st to April 30th;
- Require that geophysical surveys be commenced, with ramp up, only during daylight hours to maximize the probability that North Atlantic right whales are detected and confirmed clear of the exclusion zone;
- Require that Protected Species Observers (“PSOs”), to the extent feasible, monitor an extended minimum 1,000 meter (“m”) exclusion zone for North Atlantic right whales;
- Require PSOs adhere to a shift schedule of two-on/two-off to ensure no individual PSO is responsible for monitoring more than 180° of the exclusion zone at any one time;
- Require a combination of visual monitoring by PSOs, that includes night vision and/or infrared technology at night, and real-time passive acoustic monitoring at all times when survey work is underway;

² NOAA Fisheries, “Species in the Spotlight,” Available at: <https://www.fisheries.noaa.gov/topic/endangered-species-conservation#species-in-the-spotlight>.

³ NOAA Fisheries, “Common bottlenose dolphin.” Available at: <https://www.fisheries.noaa.gov/species/common-bottlenose-dolphin>; 84 Fed. Reg. 51,123 at Table 2 omits information that the Northern Migratory Coastal Stock of bottlenose dolphin is considered to be “depleted” under the MMPA and a “strategic stock” by NMFS.

⁴ NOAA Fisheries, “2016-2019 Humpback whale Unusual Mortality Event along the Atlantic Coast.” Available at: <https://www.fisheries.noaa.gov/national/marine-life-distress/2016-2019-humpback-whale-unusual-mortality-event-along-atlantic-coast>

⁵ The best available science on other low- to mid-frequency sources (*e.g.*, Nowacek *et al.* 2004, Kastelein *et al.* 2012, 2015) indicates that Level B takes will occur with near certainty at exposure levels well below the 160 dB threshold that NMFS applies to behavioral impacts.

- Require all project vessels operating within the survey area maintain a speed of 10 knots or less during the entire survey period. Transiting vessels should also be required to observe a 10 knot speed restriction throughout the entirety of the proposed survey period; and
- Require all project vessel operators to report sightings of living North Atlantic right whales and all sightings of dead, injured, or entangled whales, regardless of species.

In addition to the protections recommended above, we object to NMFS' proposed process to consider extending any one-year IHA with a truncated 15-day comment period. As discussed below and in our prior letters, that process is contrary to the MMPA.

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.”⁶ 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.”⁷ Congress intended for NMFS to act conservatively in the face of uncertainty when authorizing activities harmful to marine species.⁸ 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.⁹

At the heart of the MMPA is its “take” prohibition, which establishes a moratorium on the capture, harassing, hunting, or killing of marine mammals, and generally prohibits any person or vessel subject to the jurisdiction of the United States from taking a marine mammal on the high seas or in waters or on land under the jurisdiction of the United States.¹⁰ 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.”¹¹

NMFS may grant exceptions to the take prohibition. As relevant here, the agency may authorize, for not more than a one-year period, the incidental, but not intentional, “taking by harassment of small numbers

⁶ 16 U.S.C. § 1361(1).

⁷ *Id.* § 1361(2); *see also Conservation Council for Hawaii v. Nat’l Marine Fisheries Serv.*, 97 F. Supp. 3d 1210, 1216 (D. Haw. 2016).

⁸ H.R. Rep. No. 92-707 (Dec. 4, 1971), as reprinted in 1972 U.S.C.C.A.N. 4144, 4148.

⁹ 16 U.S.C. § 1361(1), (3).

¹⁰ 16 U.S.C. §§ 1362(13), 1371(a).

¹¹ *Id.* § 1362(18)(A).

of marine mammals of a species or population stock” if the agency determines that such take would have only “a negligible impact on such species or stock.”¹² The agency must prescribe permissible methods of taking to ensure that the activity has “the least practicable impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.”¹³ NMFS must also establish monitoring and reporting requirements.¹⁴ 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.¹⁵

B. The status of Atlantic large whales

As the agency is aware, the conservation status of the North Atlantic right whale is dire. Although the species has been listed under the ESA for decades, recent scientific analysis confirms that the population has been declining since 2010 due to entanglements in commercial fishing gear and ship strikes. Thirty (30) animals are known to have been killed since 2017 and the population is now estimated at approximately 400 individuals.¹⁶ Moreover, females are more negatively affected than males by the lethal and sublethal effects of human activity, surviving to only 30-40 years of age with an extended inter-calf interval of approximately 10 years.¹⁷ It is estimated that only 95 females of breeding age remain.¹⁸

In the wake of an alarming number of detected deaths of North Atlantic right whales in 2017, NMFS declared a UME,¹⁹ which devotes additional federal resources to determining and—if possible—mitigating the source of excessive mortality. This designation is still in effect. Moreover, ongoing UMEs exist for the Atlantic populations of minke whales (since January 2017) and humpback whales (since January 2016).²⁰ Alarming, 73 minke whales have stranded between Maine and South Carolina from January 2017 to October 2019.²¹ Elevated numbers of humpback whales have also been found stranded along the Atlantic Coast since January 2016 and, in a little over three years, 105 humpback whale mortalities have been recorded (data through October 4, 2019), with strandings occurring in every state

¹² *Id.* § 1371(a)(5)(D)(i).

¹³ *Id.* § 1371(a)(5)(D)(ii)(I).

¹⁴ *Id.* § 1371(a)(5)(D)(iii).

¹⁵ *Id.* § 1371(a)(5)(D)(iii).

¹⁶ NOAA Fisheries, “North Atlantic right whale,” available at: <https://www.fisheries.noaa.gov/species/north-atlantic-right-whale>.

¹⁷ Corkeron, P., Hamilton, P., Bannister, J., Best, P., Charlton, C., Groch, K.R., Findlay, K., Rowntree, V., Vermeulen, E., and Pace, R.M., “The recovery of North Atlantic right whales, *Eubalaena glacialis*, has been constrained by human-caused mortality.” *Royal Society Open Science*, vol 5, art. 180892 (2018).

¹⁸ NOAA Fisheries, “Immediate action needed to save the North Atlantic right whales,” leadership message (July 3, 2019). Available at: <https://www.fisheries.noaa.gov/leadership-message/immediate-action-needed-save-north-atlantic-right-whales>.

¹⁹ NOAA Fisheries, “North Atlantic right whale Unusual Mortality Event.” Available at: <http://www.nmfs.noaa.gov/pr/health/mmume/2017northatlanticrightwhaleume.html>.

²⁰ NOAA Fisheries, “2016-2019 Humpback whale Unusual Mortality Event along the Atlantic Coast.” *supra* note 4; NOAA Fisheries, “2017-2019 Minke whale Unusual Mortality Event along the Atlantic Coast.” Available at: <https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2019-minke-whale-unusual-mortality-event-along-atlantic-coast>.

²¹ *Id.*

along the East Coast.²² The declaration of these three large whale UMEs by the agency in the past few years, for which anthropogenic impacts are a significant cause of mortality, demonstrates an increasing risk to whales from human activities along the U.S. East Coast.

Given the highly endangered status of the North Atlantic right whale, NMFS is obligated by both the ESA and the MMPA to protect this species from additional harmful impacts of human activities. The agency is also obligated by the MMPA to consider the full range of potential impacts on all marine mammal species, including minke and humpback whales, and the depleted Western North Atlantic Northern Migratory Coastal stock of bottlenose dolphin, that are known to utilize the survey area and surrounding areas before issuing an IHA with appropriate avoidance, minimization, mitigation, and monitoring measures. NMFS must use the best available scientific information on marine mammal presence and density, as required by law.²³ Considering the elevated threat to federally protected large whale species and populations in the Atlantic, including waters off Delaware and Maryland, and emerging evidence of dynamic shifts in the distribution of large whale habitat, NMFS must ensure that any potential stressors posed by the proposed surveys are mitigated to effectuate the least practicable impact on affected species and stocks.²⁴

C. North Atlantic right whale seasonality and distribution off the coasts of Delaware and Maryland

Since 2010, North Atlantic right whale distribution and habitat use has shifted in response to climate change-driven shifts in prey availability.²⁵ Long-term passive acoustic monitoring data and visual sightings data for the U.S. East Coast indicate that North Atlantic right whales can now be found in the waters within and near the Project Area year-round.²⁶ Three years (November 2014 to June 2017) of passive acoustic monitoring data recorded in and around the Maryland Wind Energy Area (“WEA”)—an area only nine nautical miles from the Lease Area—detected North Atlantic right whales, as well as fin and humpback whales, most frequently between November and April.²⁷ In the most recent period for which data has been analyzed, Atlantic right whale vocal presence increased from November 2016 – January 2017. Vocal presence was at its highest levels in January 2017 (60.7%) and sharply decreased in February 2017 (2.4%). Right whale vocal presence was detected at low levels from March 2017 – May

²² NOAA Fisheries, “2016-2019 Humpback whale Unusual Mortality Event along the Atlantic Coast,” *supra* note 4.

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

²⁴ *Id.* § 1371(a)(5)(D)(ii)(I).

²⁵ Record, N., Runge, J., Pendleton, D., Balch, W., Davies, K., Pershing, A., Johnson, C., Stamieszkin, K., Ji, R., Feng, Z. and Kraus, S., “Rapid Climate-Driven Circulation Changes Threaten Conservation of Endangered North Atlantic Right Whales,” *Oceanography*, vol. 32, pp. 162-169 (2019).

²⁶ Davis, G.E., Baumgartner, M.F., Bonnell, J.M., Bell, J., Berchick, C., Bort Thornton, J., Brault, S., Buchanan, G., Charif, R.A., Cholewiak, D., *et al.*, “Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (*Eubalaena glacialis*) from 2004 to 2014,” *Scientific Reports*, vol. 7, p. 13460 (2017).; NOAA Northeast Fisheries Science Center, “NOAA Right Whale Sighting Advisory System.” Available at: <https://www.nefsc.noaa.gov/psb/surveys/MapperiframeWithText.html>.

²⁷ Bailey, H., Wingfield, J., Fandel, A., Fouda, L., Garrod, A., Lyubchich, S., Hodge, K.B., and Rice, A.N. *Determining offshore use by marine mammals and ambient noise levels using passive acoustic monitoring. Progress Report.* Project period 1st July 2017 – 31st August 2017. Sponsor Grant Number: 14-14-1916 BOEM. (Aug. 31, 2017); Bailey, H. *Determining offshore use by marine mammals and ambient noise levels using passive acoustic monitoring. Progress Report.* (Jul. 31, 2018).

2017, and then increased to 27.8% in June 2017.²⁸ Monthly aerial surveys conducted between July 2013 and July 2015 identified right whales to the east of the Maryland WEA (5 sightings of 13 whales) in January and February.²⁹ Eleven whales were detected in a single day in January 2015, indicating that pulses of right whales may travel through the region.³⁰ Based on data collected proximate to the Project Area, North Atlantic right whales appear to have highest relative presence between at least the months of November through April. These months of elevated occurrence are supported by the dates of the Seasonal Management Area (“SMA”) for Delaware Bay,³¹ the period for which a “Biologically Important Area” has been defined by the Agency,³² peak vocal presence recorded during the long-term passive acoustic monitoring study,³³ and 30 years of visual sightings data,³⁴ which additionally indicates that pregnant females and mother-calf pairs are migrating through the area in the fall and spring, respectively.³⁵ Survey results from adjacent states (New Jersey, Virginia, North Carolina, and Georgia), albeit relatively limited, are concordant with the distribution and seasonality of right whales off Delaware and Maryland from November 1 to April 30.³⁶

Beyond the recognized Biologically Important Area identified by NOAA,³⁷ the area is not formally identified as a habitat “hotspot;” however, a sizable proportion of the migrating right whale population will pass through or near the site and, as such, the Project Area is located in an important part of the overall right whale migratory corridor. Shoreward of the Lease Area, 30 years of sightings data demonstrate that 50 percent of mother-calf pairs were sighted within 6.88 miles of the coast, and 50 percent of other demographic groups were sighted within 8.5 miles of the coast.³⁸ As such, it can be assumed that during migration, approximately 50 percent of right whales will travel shoreward of the Lease Area, through the cable survey area, and many others will pass through the Lease Area. Moreover, location analysis of North Atlantic right whale calls showed most calls occurred across the entirety of the

²⁸ Bailey, H. *Determining offshore use by marine mammals and ambient noise levels using passive acoustic monitoring*. *Progress Report*, *id.*

²⁹ Barco, S., Burt, L., DePerte, A., and DiGiovanni, Jr., R. *Marine Mammal and Sea Turtle Sightings in the Vicinity of the Maryland Wind Energy Area July 2013-June 2015*. VAQF Scientific Report # 2015-06, prepared for the Maryland Department of Natural Resources. (2015).

³⁰ *Id.*

³¹ NOAA Fisheries, “Reducing ship strikes to North Atlantic right whales.” Available at: <http://www.nmfs.noaa.gov/pr/shipstrike/>.

³² LaBrecque, E., Curtice, C., Harrison, J., van Parijs, S.M., and Halpin, P.N., “Biologically important areas for cetaceans within U.S. waters—East coast region.” *Aquatic Mammals* 41: 17-29 (2015).

³³ Davis, G.E., *et al.*, “Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (*Eubalaena glacialis*) from 2004 to 2014,” *supra* note 26.

³⁴ NOAA Northeast Fisheries Science Center, “NOAA Right Whale Sighting Advisory System,” *supra* note 26.

³⁵ Dr. C. Good *pers. comm.* to Dr. F. Kershaw and M. Jasny, Oct. 24, 2017.

³⁶ Whitt, A.D., Dudzinski, K., and Laliberté, J.R., “North Atlantic right whale distribution and seasonal occurrence in nearshore waters off New Jersey, USA, and implications for management,” *Endangered Species Research*, 20: 59-69 (2013); Hodge, K.B., Muirhead, C.A., Morano, J.L., Clark, C.W., and Rice, A.N., “North Atlantic right whale occurrence near wind energy areas along the mid-Atlantic US coast: implications for management,” *Endangered Species Research*, 28: 225-234 (2015); Salisbury, D.P., Clark, C.W., and Rice, A.N., “Right whale occurrence in the coastal waters of Virginia, U.S.A.: Endangered species presence in a rapidly developing energy market,” *Marine Mammal Science*, 32: 508-519 (2016).

³⁷ LaBrecque, E., *et al.*, “Biologically important areas for cetaceans within U.S. waters—East coast region,” *supra* note 32.

³⁸ Dr. C. Good *pers. comm.*, *supra* note 35.

Maryland WEA and that their distribution extended further offshore. It can be assumed that North Atlantic right whales exhibit a similar distributional pattern across the Delaware WEA and, thus, the Project Area.

The best available scientific information therefore demonstrates that at least November 1 through April 30 in the Project Area represents the time period of highest risk to North Atlantic right whales, based on times of highest relative density of animals during their migration and times when mother-calf pairs may be in the area.³⁹ That said, given that North Atlantic right whales are now detected during every month of the year in the Mid-Atlantic,⁴⁰ there is a clear need for strong and effective mitigation measures to be in place year-round.

II. INCONSISTENCIES BETWEEN THE PROPOSED IHA AND THE MARINE MAMMAL PROTECTION ACT

- A. *To fulfill the statutory requirement of considering the best scientific information available, NMFS must analyze additional data sources when calculating densities of marine mammals, including the North Atlantic right whale*

NMFS must base its IHA analysis on the best available scientific information to comply with statutory requirements of the MMPA.⁴¹ In determining the proportion of marine mammal species and populations taken by the proposed activities—a calculation that lies at the heart of the agency’s “small numbers” analysis—NMFS relies on estimates of marine mammal densities derived from the habitat-based density model for the U.S. East Coast, which was funded under the agency’s CetMap program, and recently updated with new data collected during surveys conducted through 2016.⁴² However, the CetMap model, as its designers admit,⁴³ is limited. Most notably, in founding its density estimates entirely on shipboard and aerial line-transect surveys, the model necessarily excludes data obtained through additional sightings data from state-level surveys and opportunistic sources, passive acoustic monitoring, and satellite telemetry. 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). It is our view that the density maps produced by Roberts *et al.* (2016) do not fully reflect the abundance, distribution, and density of marine mammals for

³⁹ Over a dozen wildlife conservation organizations recently endorsed a suite of Best Management Practices (“BMPs”) for the protection of the North Atlantic right whale during wind energy construction and operations of fixed foundation offshore wind projects off the U.S. East Coast. The BMPs include criteria to define times of highest risk to North Atlantic right whales. 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. Available at: <https://www.nrdc.org/resources/best-management-practices-north-atlantic-right-whales-during-offshore-wind-energy>.

⁴⁰ Davis, G.E., *et al.*, “Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (*Eubalaena glacialis*) from 2004 to 2014,” *supra* note 26.

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

⁴² Roberts J.J., Best B.D., Mannocci L., Fujioka E., Halpin P.N., Palka D.L., Garrison L.P., Mullin K.D., Cole T.V.N., Khan C.B., McLellan W.M., Pabst D.A., and Lockhart G.G., “Habitat-based cetacean density models for the U.S. Atlantic and Gulf of Mexico,” *Scientific Reports*, vol. 6, p. 22615 (2016); 84 Fed. Reg. at 36,075.

⁴³ Roberts, J.J., *et al.*, *id.*

the U.S. East Coast and therefore should not be the only information source relied upon when estimating take.

The Roberts *et al.* (2016) model lacks resolution for the Western North Atlantic Northern Migratory Coastal stock of bottlenose dolphins. Misappropriation of take levels for the depleted migratory coastal bottlenose dolphin could have serious implications for the future conservation status of the stock. Specifically, this approach results in an estimated 22.1 percent of the migratory coastal population being subjected to harassment commensurate to Level B take (84 Fed. Reg. 51,139, at Table 7); in the context of this depleted and strategic stock, the Agency's intention to equate such a high level of proposed authorized take with the small numbers and negligible impact provisions of the MMPA is unsupportable. We also note that the agency omits information on the the "depleted" and "strategic" status of the Northern Migratory Coastal stock in Table 2 of the IHA.

Integration of opportunistic and other sources of data that collect fine-scale information on factors driving marine mammal distribution with those gathered through systematic broad-scale surveys will better reflect current marine mammal presence, abundance, and density off Delaware and Maryland and provide a more accurate assessment of Level B take. **It should be NMFS' top priority to consider any initial data from State monitoring efforts,⁴⁴ passive acoustic monitoring data, opportunistic marine mammal sightings data, and other data sources, and to take steps now to develop a dataset (see also recommendations in Section III.A.) that more accurately reflects marine mammal presence so that it is in hand for future IHA authorizations and other work.**

B. Using independent "survey days" as the unit of impact analysis is inappropriate

The agency has proposed to authorize up to 200 "survey days" that may take place at any point from October 2019 through September 2020, with as many as three survey vessels operating concurrently at any given time.⁴⁵ "Survey days" are treated as independent units of analysis by NMFS in terms of the estimated impact to marine mammals.⁴⁶ This approach overlooks the fact that there are times of year that North Atlantic right whales, and potentially other protected species, would have higher relative vulnerability to noise exposure from the survey activities being undertaken (*e.g.*, during foraging periods), or may have a reduced ability to avoid noise exposure due to multiple survey vessels operating in the same vicinity at the same time. By not incorporating more detailed information on the spatial and temporal resolution of survey activity into the impact analysis, NMFS may under-estimate (or over-estimate) levels of take. The likelihood of this being the case is further increased by NMFS' use of the mean annual density value for each marine mammal species,⁴⁷ rather than accounting for seasonal differences. A broader implication of this approach is that the Proposed IHA makes no attempt to directly account for the cumulative impact from multiple sound sources operating concurrently and continuously across the survey area. **NMFS should include more information on the geographic location and**

⁴⁴ See, *e.g.*, <http://energy.maryland.gov/Pages/Info/renewable/offshorewind-resources.aspx>;
https://dnr.maryland.gov/ccs/Pages/coastal_resources/oceanplanning.aspx.

⁴⁵ 84 Fed. Reg. at 51,119-20.

⁴⁶ *Id.*

⁴⁷ 84 Fed. Reg. at 51,138.

timing of the deployment of the survey vessels in the Proposed IHA and, where appropriate, factor that information in to the take analysis.

C. Any IHA extension does not comport with the plain language of the statute

NMFS again requests comment 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.⁴⁸ For several reasons, our organizations have opposed this process in prior comments as contrary to law. Without repeating all of our prior comments on this issue we reiterate that NMFS' proposal to provide one-year renewals does not comport with the plain language of the statute. Section 101(a)(D)(i) unambiguously states that incidental harassment authorizations are valid for periods of not more than one year.⁴⁹ The statute is also clear on its face that a 30 day comment period is required in all instances. An 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).⁵⁰ If Congress did not see fit to include a specific provision on an appropriate IHA renewal process, then the legislative history would not support an argument that there is ambiguity in Congress' intent in enacting the statute as written. NMFS does not have the regulatory discretion to impute a different timeframe for renewals. The MMPA provides one IHA process and therefore one specified comment period duration to rule them all.

Should the agency wish to establish its new IHA renewal process as a reasonable interpretation of an ambiguous statutory provision, it should do so through notice-and-comment rulemaking or comparable process with the appropriate indicia of formality. NMFS' recently posted new language about Incidental Harassment Authorization Renewals on its website.⁵¹ The expedited process described online is not subject to the notice and comment procedures and does not warrant judicial deference. Providing a clear and legally adequate justification for its purported new reauthorization process is especially important in light of the burden the foreshortened comment period places on interested members of the public to review not only the original authorization and supporting documents but also the draft monitoring reports, the renewal request, and the proposed renewed authorization and then to formulate comments, all within 15 calendar days. Especially given that NMFS apparently intends the new reauthorization process to become the rule rather than the exception,⁵² it is incumbent on the agency to set forth, via proposed regulation or policy document, its rationale for this new process and to allow public comment.

III. RECOMMENDATIONS FOR IMPROVED MITIGATION AND MONITORING

⁴⁸ 84 Fed. Reg. 52,464, 52,466 (Oct. 2, 2019).

⁴⁹ 16 U.S.C. § 1371(a)(5)(D)(i).

⁵⁰ *Id.* § 1371(a)(5)(D)(iii).

⁵¹ See <https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act>.

⁵² Beginning on March 7, 2019, NMFS has issued notice of this new reauthorization process for a multitude of permits. *See, e.g.*, 84 Fed. Reg. 8312 (Mar. 7, 2019); 84 Fed. Reg. 8316 (Mar. 7, 2019); 84 Fed. Reg. 11,508 (Mar. 27, 2019); 84 Fed. Reg. 13,246 (Apr. 4, 2019); 84 Fed. Reg. 14,200 (Apr. 9, 2019); 84 Fed. Reg. 15,598 (Apr. 16, 2019); 84 Fed. Reg. 17,384 (Apr. 25, 2019); 84 Fed. Reg. 17,784 (Apr. 26, 2019); 84 Fed. Reg. 17,788 (Apr. 26, 2019); 84 Fed. Reg. 18,346 (Apr. 30, 2019); 84 Fed. Reg. 18,495 (May 1, 2019); 84 Fed. Reg. 18,801 (May 2, 2019); 84 Fed. Reg. 18,809 (May 2, 2019); 84 Fed. Reg. 20,336 (May 9, 2019).

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.”⁵³ In light of the aforementioned inconsistencies between the agency’s analysis and the requirements of the MMPA, as well as the significant risks posed to the North Atlantic right whale, other endangered and/or strategic marine mammal stocks, and protected humpback whales by the site assessment and characterization activities outlined in the Proposed IHA, NMFS has an obligation to impose robust avoidance, minimization, mitigation, and monitoring requirements to protect these species to the maximum extent practicable.

The agency expects that “[a]ll potential takes would be in the form of short-term Level B behavioral harassment in the form of temporary avoidance of the area, reactions that are considered to be of low severity with no lasting biological consequences.”⁵⁴ The year-round operation of up to three survey vessels at any one time across a relatively limited geographic area presents a significant potential for cumulative disturbance during the North Atlantic right whale’s primary migratory period (November 1 through April 30), and during the summer when the depleted Northern Coastal Migratory Stock of bottlenose dolphin forage within the Project Area.⁵⁵ Protected humpback whales are also increasingly sighted year-round in Mid-Atlantic waters.⁵⁶ Best available scientific information shows that the North Atlantic right whale population in particular cannot withstand any additional stressors. As such, **the agency must carefully analyze the cumulative impacts from the proposed survey activities on the North Atlantic right whale and other protected species.**

In addition, the implementation of a robust impact avoidance, minimization, mitigation, and monitoring protocol to prevent adverse impacts of the proposed survey activities is therefore essential and required by law. **Below, we recommend specific avoidance, minimization, mitigation, and monitoring measures intended to address these concerns:**

A. Seasonal restriction on geophysical surveys in the Lease Areas from November to April 30

As described above (*see*, Section I.A), NMFS is proposing to authorize geophysical surveys off Delaware and Maryland at times when North Atlantic right whales are expected to be present at high densities during the annual migration. The survey period is intended to commence in October 2019 be conducted 24-hours a day for up to 200 days across the permitted 12-month period, utilizing up to three survey vessels at any one time.⁵⁷ Time and area restrictions designed to protect important life history behaviors are one of the most effective available means to reduce the potential impacts of noise and disturbance on marine mammals, including noise from geophysical surveys of a level capable of potentially causing

⁵³ 16 U.S.C. § 1371(a)(5)(D)(vi).

⁵⁴ 84 Fed. Reg. 51,143.

⁵⁵ 84 Fed. Reg. at 51,120.

⁵⁶ NOAA Fisheries, “2016-2019 Humpback whale Unusual Mortality Event along the Atlantic Coast,” *supra* note 4; NOAA Fisheries, “Global review of humpback whales (*Megaptera novaeangliae*),” NOAA-TM-NMFS-SWFSC-474 (March 2011).

⁵⁷ 84 Fed. Reg. at 51,120.

Level A and Level B harassment.⁵⁸ Consistent with the scale and cumulative acoustic impact of the intense period of proposed survey activity, **NMFS must impose a restriction on 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 uPa) minimally from November 1 to April 30 in the Project Area;**⁵⁹ these dates should be reviewed annually and revised as necessary to reflect the best available scientific information. These dates currently reflect both the best available science on the relative density of North Atlantic right whales off Delaware and Maryland (recognizing that individuals of this species could be present in each month of the year; *see* Section I.C). We also note that, as North Atlantic right whales may be present in the survey area during the summer months, NMFS must ensure that adequate mitigation measures (*see* Sections III.B. through III.E. for our recommendations) are in place to protect this and other priority species, including the depleted Coastal Migratory Stock of bottlenose dolphin, throughout the year.

While existing and potential stressors to the North Atlantic right whale must be minimized as far as possible to promote the survival and recovery of the species, **the agency must also address potential impacts to other endangered and protected whale species, particularly in light of the UMEs declared for right whales, humpback whales and minke whales,**⁶⁰ as well as the depleted Northern Migratory Coastal stock of bottlenose dolphin that seasonally inhabits the region (*see* Sections I.B. through I.D.). It is therefore imperative that consequences of the proposed North Atlantic right whale seasonal restriction on other endangered and protected species be fully accounted for by the agency (*e.g.*, a seasonal restriction may displace survey activities later in the year, which may increase levels of take for other species and populations; consideration of potential risks to other species is particularly pertinent in light of the mass stranding off Madagascar that was caused by the use of comparable high resolution geophysical (“HRG”) survey equipment).⁶¹

NMFS has an obligation to use the best available scientific information, which includes standardized survey data as passive acoustic and opportunistic detections. As such, NMFS must incorporate all currently available information to elucidate and balance the relative risks to these species, for which there is relatively limited data. Therefore, **NMFS should: 1) fund analyses of recently collected sighting and acoustic data for all data-holders; and 2) continue to fund and expand surveys and studies to improve our understanding of distribution and habitat use of marine mammals off Delaware and**

⁵⁸ *See, e.g.*, Agardy, T., Aguilar Soto, N., Cañadas, A., Engel, M., Frantzis, A., Hatch, L., Hoyt, E., Kaschner, K., LaBrecque, E., Martin, V., Notarbartolo di Sciara, G., Pavan, G., Servidio, A., Smith, B., Wang, J., Weilgart, L., Wintle, B., and Wright, A., “A global scientific workshop on spatio-temporal management of noise,” Report of workshop held in Puerto Calero, Lanzarote (June 4-6, 2007); Dolman, S., Aguilar Soto, N., Notarbartolo di Sciara, G., and Evans, P., “Technical report on effective mitigation for active sonar and beaked whales,” Working group convened by European Cetacean Society (2009); Memorandum from Dr. Jane Lubchenco, NOAA Administrator, to Ms. Nancy Sutley, CEQ Chair (Jan. 19, 2010); Convention on Biological Diversity, “Scientific synthesis on the impacts of underwater noise on marine and coastal biodiversity and habitats,” UN Doc. UNEP/CBD/SBSTTA/16/INF/12 (2012).

⁵⁹ As previously noted, the best available science on other low- to mid-frequency sources (*e.g.*, Nowacek et al. 2004, Kastelein et al. 2012, 2015) indicates that Level B takes will occur with near certainty at exposure levels well below the 160 dB threshold that NMFS applies to behavioral impacts.

⁶⁰ NOAA Fisheries, “North Atlantic right whale Unusual Mortality Event,” *supra* note 19; NOAA Fisheries, “2016-2019 Humpback whale Unusual Mortality Event along the Atlantic Coast,” *supra* note 4; NOAA Fisheries, “2017-2019 Minke whale Unusual Mortality Event along the Atlantic Coast,” *supra* note 20.

⁶¹ 84 Fed. Reg. at 51,132.

Maryland, including the Project Area, as well as the broader Mid-Atlantic region. Only then can the most effective seasonal restrictions and mitigation measures be considered in a year-round context. In the absence of such information, the agency should, as noted above, apply precautionary measures for the time-period proposed (*i.e.*, November 1 to April 30), as based on the best available scientific information.

B. Geophysical surveys should commence, with ramp-up, only during daylight hours

We are deeply concerned that NMFS has proposed reliance upon a single PSO as the primary means of detecting North Atlantic right whales and other marine mammals both during the day and at night, with no requirement for night vision or infrared technology, nor real-time passive acoustic monitoring. This approach is wholly under-protective and places one of the world's most endangered species at unnecessary risk.

The effectiveness of night vision and infrared technology in detecting marine mammals, including large whales, has not yet been tested and published for this geographic region. In general, night vision equipment, relying on image intensifying technology, has not been widely used or tested for marine mammal monitoring, and is considered to be heavily affected by environmental conditions often present at sea. Infrared technology, relying on thermal differences between the target species and the environment, has shown promise for night time detection of a number of marine mammal species from vessels.⁶² However, the application of infrared technology as a mitigation tool is still in development and a number of studies have reported varying results depending on the type of equipment used, the environmental conditions, and the species in question. These concerns notwithstanding, and in lieu of new research on the effectiveness of these technologies, we recommend NMFS require the use of night vision or infrared technology at night *in combination with* real-time passive acoustic monitoring during the entire survey period, to maximize the likelihood of detection (see Section III.D).

Given the paucity of mitigation measures currently proposed, and the questions remaining over the effectiveness of night vision and infrared technology, geophysical surveys must only commence, with ramp-up, during daylight hours of adequate visibility⁶³ to maximize the probability that North Atlantic right whales are detected and confirmed clear of the exclusion zone. If clear, the survey can then continue into nighttime hours. However, if a North Atlantic right whale is detected in the exclusion zone during nighttime hours and the survey is shut down, developers should be required to wait until daylight hours for ramp-up to resume.

C. Minimum radii of exclusion zones should be increased and maintained throughout survey activities

⁶² Lathlean, J. and Seuront, L., "Infra-red thermography in marine ecology: methods, previous applications and future challenges," *Marine Ecology Progress Series*, vol. 514, p. 263-277 (2014).

⁶³ Adequate visibility should be determined by the lead PSO based on standardized environmental parameters (*e.g.*, visibility, glare, sea state, wind speed).

The Proposed IHA specifies that marine mammal exclusion zones will be established around HRG equipment and monitored by PSOs during HRG surveys as follows: 500 m exclusion zone for North Atlantic right whales; a 200 m exclusion zone for other ESA-listed marine mammals (fin, sei, and sperm whales); and a 100 m exclusion zone for all other marine mammals.⁶⁴ 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, including large whales, may experience noise at levels capable of causing behavioral harassment (*i.e.*, received level <160 dB).⁶⁵ Again, any potential harassment of the North Atlantic right whale is a significant concern. Moreover, the agency is demonstrating inconsistency in its exclusion zone requirements for different Lease Areas without explanation or justification.⁶⁶

NMFS must require sufficient monitoring practices to ensure a 500 m exclusion zone for *all* marine mammals⁶⁷ around all vessels conducting activities with noise levels that could result in injury or harassment to these species (based on the best available science), with the exception of dolphins that, in the determination of PSOs, are voluntarily approaching the vessel. **Additionally, PSOs should, to the extent feasible, monitor beyond the minimum 500 m exclusion zone to an extended 1,000 m exclusion zone for North Atlantic right whales.**⁶⁸ NMFS should maintain protective exclusion zones, at the minimum distances we recommend above, throughout the site assessment and characterization activities to maximize protections for North Atlantic right whales and other protected species. The exclusion zone distance should be extended beyond these minimum distances in the case that sound source validation data support such an extension.

D. A combination of Protected Species Observers and passive acoustic monitoring must be employed at all times

The ability to detect marine mammals is highly dependent on the species and behavior, which has led experts to recommend a combination of monitoring methods be employed to maximize detectability.⁶⁹ For even the most conspicuous large whale species, estimates of relative detection probability for a

⁶⁴ 84 Fed. Reg. at 51,140.

⁶⁵ See, e.g., Wright, A.J., “Sound science: Maintaining numerical and statistical standards in the pursuit of noise exposure criteria for marine mammals.” *Frontiers in Marine Science*, vol. 2 (2015).

⁶⁶ See, e.g., 83 Fed. Reg. 19,711-19,736, which specifies: 25 m exclusion zone for harbor porpoises; 200 m exclusion zone for ESA-listed cetaceans, including sperm whales and mysticetes (except North Atlantic right whale); and 500 m exclusion zone for North Atlantic right whales. No exclusion zones are warranted for non-ESA-listed marine mammals. PSOs will visually monitor and record the presence of all marine mammals within 500 meters.

⁶⁷ Letter from J. Grybowski, F. Beinecke, J. Kassel, J. Lyon, M. Alt, J. Savitz, A. Downes, and M. Brune, to Ms. M. Bornholdt, Renewable Energy Program Manager, Bureau of Ocean Energy Management, regarding “Proposed mitigation measures to protect North Atlantic right whales from site assessment and characterization activities of offshore wind energy development in the Rhode Island and Massachusetts Wind Energy Area” (May 7, 2014). The dates of the seasonal restrictions have since been revised to November 1st through May 14th, as reflected in our current letter, based on the best available science.

⁶⁸ As recommended by Drs. S.D. Kraus, C. Good, and H. Bailey *pers. comm.* to Dr. F. Kershaw and M. Jasný, Oct. 24, 2017.

⁶⁹ See, e.g., Verfuss, U.K., Gillespie, D., Gordon, J., Marques, T.A., Millr, B., Plunkett, R., Theriault, J.A., Tollit, D.J., Zitterbart, D.P., Hubert, P., and Thomas, L., “Comparing methods suitable for monitoring marine mammals in low visibility conditions during seismic surveys.” *Marine Pollution Bulletin*, vol. 126, p.1-18 (2018).

Beaufort sea state of 6 is less than half that for a Beaufort sea state of 0.⁷⁰ Sea state has been demonstrated to have a direct effect on the sighting probability of North Atlantic right whales in the Lower Bay of Fundy and in Roseway Basin of the Southwest Scotian Shelf.⁷¹ In line with Barlow (2015),⁷² 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.⁷³

These studies indicate the effect of increasing Beaufort sea state in reducing the probability of detection of large whales, including the North Atlantic right whale. Based on the data collected by the National Buoy Data Center (*see* Table 1),⁷⁴ a monthly average Beaufort sea state of 3 or 4 can be expected in close vicinity to the Lease Area, year-round, with the highest sea states from September to May. This is a salient consideration in the evaluation of whether a species can be adequately protected by species observers alone, given the moderate Beaufort sea states in the vicinity of the Lease Areas during the months when the proposed surveys would take place.

Given these data, observers alone are certain to underestimate the number of large whales in the mitigation area based on sea state. From the findings of Baumgartner *et al.* (2003),⁷⁵ we would expect a reduction in detection probability of North Atlantic right whales by up to 84.5 percent based on an average Beaufort sea state of 4, relative to ideal sighting conditions (*i.e.*, Beaufort sea state = 0). Notably, the detectability of North Atlantic right whales even under ideal sighting conditions is likely to be significantly less than 100 percent given availability and perception biases other than those involving sea state.

In addition to sighting condition limitations, studies suggest that North Atlantic right whales exhibit behaviors that reduce the likelihood that they would be detected by PSOs and therefore often go undetected by observers. 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,⁷⁶ even though visual surveys have rarely reported sightings of North Atlantic right whales in the winter off the coast of Massachusetts.⁷⁷ In fact, aerial surveys were found to detect North Atlantic right whales on

⁷⁰ Barlow, J., "Inferring trackline detection probabilities, $g(0)$, for cetaceans from apparent densities in different survey conditions," *Marine Mammal Science*, vol. 31, p. 923-943 (2015).

⁷¹ Baumgartner, M.F., Cole, T.V.N., Clapham, P.J., and Mate, B.R., "North Atlantic right whale habitat in the lower Bay of Fundy and on the SW Scotian Shelf during 1999-2001." *Marine Ecology Progress Series*, vol. 264, p. 137-154 (2003).

⁷² Barlow, J., "Inferring trackline detection probabilities, $g(0)$, for cetaceans from apparent densities in different survey conditions," *supra* note 70.

⁷³ *Id.*

⁷⁴ NOAA-NWS, "National Data Buoy Center." Available at: <http://www.ndbc.noaa.gov/>.

⁷⁵ Baumgartner, M.F., *et al.*, *supra* note 71.

⁷⁶ Morano, J.L., Rice, A.N., Tielens, J.T., Estabrook, B.J., Marray, A., Roberts, A.L., and Clarkm C.W., "Acoustically detected year-round presence of right whales in an urbanized migration corridor." *Conservation Biology*, vol. 26, p. 698-707 (2012).

⁷⁷ Winn, H.E., Price, C.A., and Sorenson, P.W., "The distributional biology of the right whale (*Eubalaena glacialis*) in the western North Atlantic." *Report of the International Whaling Commission*, Special Issue, vol. 10, p. 129-138 (1986); Pittman, S.J, Kot, C., Kenney, R.D., Costa, B., and Wiley, D., "Cetacean distribution and diversity." In: Battista T., Clark R., Pittman S.(eds) *An ecological characterization of the Stellwagen Bank National Marine Sanctuary Region: oceanographic, biogeographic, and contaminants assessment*, p.264-324 (2006).

only two-thirds of the days they were acoustically detected in Cape Cod Bay, Massachusetts, from 2001 to 2005.⁷⁸ Additionally, there is evidence that North Atlantic right whales spend significantly more time at subsurface depths (1-10 m) compared to normal surfacing periods (within 1 m of the surface) when exposed to certain types of acoustic disturbance.⁷⁹ These behavioral responses are likely to be heightened when whales are in the proximity of the acoustic disturbance from geophysical surveys, meaning that animals may be less detectable by observers during the survey period relative to other times of the year.⁸⁰

Table 1. Long-term monthly average wind speed (1984-2008), wave height (1986-2008) and corresponding Beaufort Sea State recorded at NOAA National Data Buoy Station 44009 (LLNR 168) – DELAWARE BAY 26 NM Southeast of Cape May, NJ. Data source: NOAA National Data Buoy Center (Accessed: October 23, 2019).

Month	Wind Speed (knots)	Wave Height (m)	Beaufort Sea State
January	15.1	1.4	4
February	14.1	1.4	4
March	13.5	1.4	4
April	12.2	1.3	4
May	11.0	1.1	4
June	10.0	0.9	3
July	9.5	0.9	3
August	9.7	1.0	3
September	11.3	1.2	4
October	12.9	1.3	4
November	14.2	1.3	4
December	14.9	1.4	4

Thus, reliance on a single PSO as the sole monitoring method during both daylight hours and during the night is under-protective and should not be endorsed by the agency. **A combination of visual monitoring by PSOs and passive acoustic monitoring should be implemented 24 hours a day.** Research has demonstrated that passive acoustic monitoring can provide a two- to ten-fold increase in the number of days that right whales are detected relative to visual methodologies.⁸¹ The passive acoustic protocol

⁷⁸ Clark, C.W., Brown, M.W., and Corkeron, P., “Visual and acoustic surveys for North Atlantic right whales, *Eubalaena glacialis*, in Cape Cod Bay, Massachusetts, 2001-2005: Management Implications.” *Marine Mammal Science*, vol. 26, p. 837-854 (2010).

⁷⁹ Nowacek, D.P., Johnson, M.P., and Tyack, P.L., “North Atlantic right whales (*Eubalaena glacialis*) ignore ships but respond to alerting stimuli.” *Proceedings: Biological Sciences*, vol. 271, p. 227-231 (2004).

⁸⁰ Robertson, F.C., Koski, W.R., Thomas, T.A., Richardson, W.J., Würsig, B., and Trites, A.W., “Seismic operations have variable effects on dive-cycle behavior of bowhead whales.” *Endangered Species Research*, vol. 21, p. 143-160 (2013).

⁸¹ Soldevilla, M.S., Rice, A.N., Clark, C.W., and Garrison, L. P., “Passive acoustic monitoring on the North Atlantic right whale calving grounds,” *Endangered Species Research*, vol. 25, pp. 115–140 (2014). It is important to note that passive acoustic monitoring, while capable of significantly increasing detection rates, is not an approach capable of detecting all whales in an area due to the fact that not all individuals continually vocalize, or vocalizations may be very low in volume at certain life history stages, as in the case of “contact calls” between North Atlantic right whale mothers and calves (*see* Parks, S. E.,

should be designed so the hydrophone is not masked by vessel or survey noise. We also support the inclusion of both broadband and low frequency hydrophones, which will serve to ensure that North Atlantic right whale vocalizations, as well as those of other low- and mid-frequency vocalizing species, can be detected. **Survey activity must be shut down upon the visual or acoustic detection of a North Atlantic right whale.** Acoustic detections of other species should be used to assist PSOs in their visual monitoring efforts.

The shift schedule of the NMFS-approved PSOs aboard the survey vessel **must also be adjusted to a minimum of four PSOs following a two-on two-off rotation, each responsible for scanning no more than 180° of the exclusion zone at any given time. Observation must begin at least 30 minutes prior to the commencement of geophysical survey activity and shall be conducted throughout the time of geophysical survey activity.**

E. Vessel strike measures

Vessel collisions remain one of the leading causes of large whale injury and mortality, and are a primary driver of the existing UMEs. The number of recorded vessel collisions on large whales each year is likely to grossly underestimate the actual number of animals struck, as animals struck but not recovered, or not thoroughly examined, cannot be accounted for.⁸² North Atlantic right whales are particularly prone to ship-strike given their slow speeds, their occupation of waters near shipping lanes, and the extended time they spend at or near the water's surface.⁸³ Some types of anthropogenic noise have been shown to induce sub-surface positioning in North Atlantic right whales, increasing the risk of ship-strike at relatively moderate levels of exposure.⁸⁴ It is possible that HRG surveys could produce the same effects, and should therefore be treated conservatively. In addition, the agency has a responsibility to implement mitigation measures to prevent any further vessel collisions for other species of large whale currently experiencing an UME (*i.e.*, humpback whales and minke whales), as well as other species such as fin whales, which, in light of the broad distributional shifts observed for multiple species, may be at potential future risk of experiencing an UME.

As described in the Proposed IHA, the survey vessel(s) will maintain a speed of four knots during surveys.⁸⁵ A mandatory speed limit of 10 knots is also required of all vessels, regardless of size, within mandatory Mid-Atlantic SMAs (in operation from November 1 through April 30) and voluntary Dynamic

Cusano, D. A., Van Parijs, S. M., & Nowacek, D. P., "Acoustic crypsis in communication by North Atlantic right whale mother-calf pairs on the calving grounds." *Biology Letters*, 15(10), 20190485 (2019); Parks, S. E., Cusano, D. A., Van Parijs, S. M., & Nowacek, D. P., "North Atlantic right whale (*Eubalaena glacialis*) acoustic behavior on the calving grounds." *The Journal of the Acoustical Society of America*, 146(1), EL15-EL21 (2019)). As such, passive acoustic monitoring must be used in combination with visual detection methods for mitigation purposes.

⁸² Reeves, R.R., Read, A.J., Lowry, L., Katona, S.K., and Boness, D.J., "Report of the North Atlantic Right Whale Program Review." 13–17 March 2006, Woods Hole, Massachusetts (2007) (prepared for the Marine Mammal Commission); Parks, S.E., Warren, J.D., Stamieszkin, K., Mayo, C.A., and Wiley, D., "Dangerous dining: surface foraging of North Atlantic right whales increases risk of vessel collisions." *Biology Letters*, vol. 8, p. 57-60 (2011).

⁸³ NOAA Fisheries, "Recovery plan for the North Atlantic right whale" (August 2004).

⁸⁴ Nowacek, D.P., *et al.*, *supra* note 79.

⁸⁵ 84 Fed. Reg. at 51,138.

Management Areas (“DMAs;” year-round) as designated by NMFS.⁸⁶ As North Atlantic right whales may be in the Project Area year round (*see* Section I.C.), and as serious injury or mortality can occur from a vessel traveling above 10 knots irrespective of its length,⁸⁷ and also as mothers and calves are likely to travel close to shore,⁸⁸ **a 10 knot speed restriction on all project associated vessels transiting within, and to/ from, the survey area should be required for the proposed survey period.** To reflect the risk posed by vessels of any length, NMFS set the standard of a mandatory vessel speed restriction for all vessels (including under 20 meters) in the Cape Cod Bay SMA. (This measure should be considered in addition to the seasonal restriction on geophysical surveys recommended in Section III.A).

Additionally, studies of other baleen whales indicate that noise can induce horizontal displacement.⁸⁹ HRG surveys may therefore push a North Atlantic right whale out of a SMA or DMA, that whale may enter an area where vessels are traveling at greater speed, presenting a greater danger of vessel collision. This is particularly concerning in light of the fact that the Project Area lies adjacent to an area of high ship traffic resulting from the approach to Delaware Bay. **Indirect ship strike risk resulting from habitat displacement must be accounted for in NMFS’ analysis.**

Finally, we recommend that **NMFS require all project vessel operators to report sightings of living North Atlantic right whales and all sightings of dead, injured, or entangled whales, regardless of species.** Such reporting requirements would be informative across a range of marine mammal protection and regulatory efforts currently being undertaken by the agency.

IV. CONCLUSION

Thank you for considering our comments. For the above reasons, NMFS must revise its analysis to be consistent with the agency’s statutory obligations. We request the opportunity to meet with you, and your staff, to discuss these matters.

Sincerely,

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⁸⁶ 84 Fed. Reg. at 51,141; “If NMFS should establish a DMA in the survey area while surveys are underway, Skipjack would contact NMFS within 24 hours of the establishment of the DMA to determine whether alteration of survey activities was warranted to avoid right whales to the extent possible.”

⁸⁷ NOAA Fisheries, “Reducing ship strikes to North Atlantic right whales,” *supra* note 31.

⁸⁸ Dr. C. Good *pers. comm.*, *supra* note 35.

⁸⁹ *E.g.*, Castellote, M., Clark, C.W., and Lammers, M.O., “Acoustic and behavioural changes by fin whales (*Balaenoptera physalus*) in response to shipping and airgun noise,” *Biological Conservation*, vol. 147, pp. 115-122 (2012).

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