E 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648-XD134]

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Marine Site Characterization Surveys Off New Jersey and New York

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; issuance of an incidental harassment authorization.

SUMMARY: In accordance with the regulations implementing the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that NMFS has issued an incidental harassment authorization (IHA) to Atlantic Shores Offshore Wind Bight, LLC (Atlantic Shores) to incidentally harass, by Level B harassment only, marine mammals during marine site characterization survey activities offshore of New Jersey and New York.

DATES: This Authorization is effective from August 10, 2023 through August 9, 2024.

ADDRESSES: Electronic copies of the original application and supporting documents (including NMFS **Federal Register** notices of the original proposed and final authorizations, and the previous IHA), as well as a list of the references cited in this document, may be obtained online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-other-energy-activities-renewable*. In case of problems accessing these documents, please call the contact listed below.

FOR FURTHER INFORMATION CONTACT: Jessica Taylor, Office of Protected Resources, NMFS, (301) 427-8401.

SUPPLEMENTARY INFORMATION:

Background

The MMPA prohibits the "take" of marine mammals, with certain exceptions. Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq*.) direct the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed incidental take authorization may be provided to the public for review.

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). Further, NMFS must prescribe the permissible methods of taking and other "means of effecting the least practicable adverse impact" on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stocks for taking for certain subsistence uses (referred to in shorthand as "mitigation"); and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth.

The definitions of all applicable MMPA statutory terms cited above are included in the relevant sections below.

History of Request

On April 8, 2022, NMFS received a request from Atlantic Shores for an IHA to take marine mammals incidental to marine site characterization surveys offshore of New Jersey and New York, in the area of Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf Lease Area (OCS-A

0541) and the associated ECR area. Atlantic Shores requested authorization to take small numbers of 15 species of marine mammals by Level B harassment only. NMFS published a notice of the proposed IHA in the **Federal Register** on June 27, 2022 (87 FR 30867). After a 30-day public comment period and consideration of all public comments received, we subsequently issued the 2022 IHA, which is effective from August 10, 2022, to August 9, 2023 (87 FR 50293, August 16, 2022).

Atlantic Shores completed a subset of the survey work under the 2022 IHA. Atlantic Shores conducted the required marine mammal mitigation and monitoring and did not exceed authorized levels of take under previous IHAs issued for surveys offshore of New York and New Jersey (see 85 FR 21198, April 16, 2020 and 86 FR 21289, April 22, 2021). These previous monitoring results are available to the public on our website: *https://www.fisheries.noaa.gov/action/incidental-take-authorization-atlantic-shores-offshore-wind-llc-marine-site-characterization*.

On March 20, 2023, NMFS received a request from Atlantic Shores for an IHA to take marine mammals incidental to high-resolution geophysical (HRG) marine site characterization surveys offshore of New Jersey and New York in the areas of Bureau of Ocean Energy and Management (BOEM) Commercial Lease of Submerged Lands for Renewable Energy Development on the OCS Lease Area (OCS A-0541) and associated ECR area. Following NMFS' review of the application, Atlantic Shores submitted a revised request on April 7, 2023. The application (the 2023 request) was deemed adequate and complete on April 20, 2023. Atlantic Shores' request is for take of 15 species of marine mammals, by Level B harassment only. Neither Atlantic Shores nor NMFS expect serious injury or mortality to result from this activity and, therefore, an IHA is appropriate.

The activities described in Atlantic Shores' request, the overall survey duration, the project location, and the acoustic sources planned for use are identical to what was

previously analyzed in support of the IHA issued by NMFS to Atlantic Shores for 2022 site characterization surveys (2022 IHA) (87 FR 38067, June 27, 2022; 87 FR 50293, August 16, 2022). All mitigation, monitoring, and reporting requirements remain the same. While Atlantic Shores' planned activity would have qualified for renewal of the 2022 IHA, due to the availability of updated marine mammal density data (*https://seamap.env.duke.edu/models/Duke/EC/*), which NMFS has determined represents the best available scientific data, NMFS determined to proceed with a new IHA process rather than a renewal, providing a 30-day period for the public to comment on this action.

The 2023 request is identical to the 2022 IHA. In evaluating the 2023 request and to the extent deemed appropriate, NMFS also relied on the information presented in notices associated with issuance of the 2022 IHA (87 FR 38067, June 27, 2022; 87 FR 50293, August 16, 2022).

No changes were made from the proposed IHA to the final IHA.

Description of the Activity and Anticipated Impacts

Overview

Atlantic Shores will conduct HRG marine site characterization surveys in the BOEM Lease Area OCS–A 0541 and along the export cable route (ECR) off of New Jersey and New York. The purpose of surveys is to obtain an assessment of seabed (geophysical, geotechnical, and geohazard), ecological, and archeological conditions within the footprint of a planned offshore wind facility development area. Surveys are also conducted to support engineering design and to map unexploded ordnance. As many as three survey vessels may operate concurrently as part of the planned surveys. During survey effort, the vessels would operate at a maximum speed of 3.5 knots (kn) (6.5 kilometers (km)). Underwater sound resulting from Atlantic Shores' activities has the potential to result in incidental take of marine mammals in the form of Level B harassment.

The planned activity is estimated to require up to 360 survey days using a maximum of three vessels operating concurrently over the course of the 1-year period of effectiveness of the IHA. It is expected that each vessel would cover approximately 55 km of track line per day based on Atlantic Shores' data acquisition efficiency expectations.

Underwater sound resulting from Atlantic Shores' survey activities during use of specific active acoustic sources has the potential to result in incidental take of marine mammals in the form of behavioral harassment (Level B harassment). Geophysical activities were discussed previously for the 2022 IHA NMFS issued to Atlantic Shores (87 FR 50293, August 16, 2022) and, as no new information has been presented that changed our determinations on these activities, this information will not be reiterated here. The mitigation, monitoring, and reporting measures are described in more detail later in this document (please see **Description of Mitigation, Monitoring, and Reporting**).

A detailed description of the planned surveys is provided in the **Federal Register** notice for the proposed IHA (88 FR 41912, June 28, 2023) and 2022 **Federal Register** notice (87 FR 50293, August 16, 2022). Since that time, no changes have been made to the planned activities. Therefore, a detailed description is not provided here. Please refer to those **Federal Register** notices for the description of the specific activity.

Comments and Responses

A notice of NMFS' proposal to issue an IHA to Atlantic Shores was published in the **Federal Register** on June 28, 2023 (88 FR 41912). That notice described, in detail, Atlantic Shores' proposed activities, the marine mammal species that may be affected by these activities, and the anticipated effects on marine mammals. We requested public input on the request for authorization described therein, our analyses, the proposed authorization, and requested that interested persons submit relevant information,

suggestions, and comments.

NMFS received 19 public comment letters. Four of these comment letters were from non-governmental organizations: Clean Ocean Action (COA), Oceana, Sea Life Conservation (SLC), and Green Oceans. The remaining 15 comment letters were from private citizens. The majority of these expressed general opposition to issuance of the IHA or to the underlying associated activities, but without providing specific information relevant to NMFS' request for public comment. Seven of the letters from private citizens provided substantive comments that are addressed below.

We reiterate here that NMFS' action concerns only the authorization of marine mammal take incidental to the planned surveys—NMFS' authority under the MMPA does not extend to the surveys themselves or to wind energy development more generally. Many of the comments requested that NMFS not issue any IHAs related to wind energy development and/or expressed opposition for wind energy development generally without providing information relevant to NMFS' decision to authorize take incidental to Atlantic Shores' survey activities. We do not specifically address comments expressing general opposition to activities related to wind energy development or respond to comments not relevant to the scope of the proposed IHA (88 FR 41912, June 28, 2023), such as comments on other Federal agency processes and activities not authorized under this IHA (*e.g.,* seismic surveys, offshore wind construction, installation of wind turbines, other marine site characterization surveys).

All substantive comments and NMFS' responses are provided below, and all substantive comments are available on NMFS' website: *https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act*. Please see the comment letters for full details regarding the comments and associated rationale.

Comment 1: COA, SLC, and Green Oceans expressed concern regarding ocean noise and the interference it has on communication between whales. In addition, Green Oceans claimed that NMFS failed to "meaningfully consider" the potential for Atlantic Shores' HRG survey activities to mask marine mammal communication. Specifically, Green Oceans stated that the proposed IHA did not address how increasing ocean noise will impact masking of "interspecies cooperation and communication," and their "survival," as a result.

Response: NMFS agrees that noise pollution in marine waters is an issue with the potential to affect marine mammals, including their ability to communicate when noise reaches certain levels. NMFS disagrees that the potential impacts of masking were not properly considered. NMFS acknowledges our understanding of the scientific literature that Green Oceans cited but, fundamentally, the masking effects to any one individual whale from one survey are expected to be minimal. Masking is referred to as a chronic effect because one of the key harmful components of masking is its duration—the fact that an animal would have reduced ability to hear or interpret critical cues becomes much more likely to cause a problem the longer it is occurring. Also, inherent in the concept of masking is the fact that the potential for the effect is only present during the times that the animal and the source are in close enough proximity for the effect to occur (and further this time period would need to coincide with a time that the animal was utilizing sounds at the masked frequency) and, as our analysis (both quantitative and qualitative components) indicates, because of the relative movement of whales and vessels, we do not expect these exposures with the potential for masking to be of a long duration within a given day. Further, because of the relatively low density of mysticetes, and relatively large area over which the vessels travel, we do not expect any individual whales to be exposed to potentially masking levels from these surveys for more than a few days in a year.

As noted above, any masking effects of this survey are expected to be limited and brief, if present. Given the likelihood of significantly reduced received levels beyond even short distances from the survey vessel, combined with the short duration of potential masking and the lower likelihood of extensive additional contributors to background noise offshore within these short exposure periods, we believe that the incremental addition of the survey vessel is unlikely to result in more than minor and short-term masking effects, likely occurring to some small number of the same individuals captured in the estimate of behavioral harassment.

NMFS does not expect that the generally short-term, intermittent, and transitory marine site characterization survey activities planned by Atlantic Shores will create conditions of acute or chronic acoustic exposure leading to long-term physiological impacts in marine mammals. NMFS' prescribed mitigation measures are expected to further reduce the duration and intensity of acoustic exposure, while limiting the potential severity of any possible behavioral disruption.

Comment 2: Multiple commenters urged NMFS to deny the proposed project and/or postpone any offshore wind (OSW) activities until NMFS determines effects of all OSW activities on marine mammals in the region and determines that the recent whale deaths are not related to OSW activities. Similarly, some commenters provided general concerns regarding recent whale stranding events on the Atlantic Coast, including speculation that the strandings may be related to wind energy development-related activities and that Atlantic Shores' surveys could lead to marine mammal mortalities. However, the commenters did not provide any specific information supporting these concerns.

Response: NMFS authorizes take of marine mammals incidental to marine site characterization surveys but does not authorize the surveys themselves. Therefore, while NMFS has the authority to modify, suspend, or revoke an IHA if the IHA holder fails to

abide by the conditions prescribed therein (including, but not limited to, failure to comply with monitoring or reporting requirements), or if NMFS determines that (1) the authorized taking is having or is likely to have more than a negligible impact on the species or stocks of affected marine mammals, or (2) the prescribed measures are likely not or are not effecting the least practicable adverse impact on the affected species or stocks and their habitat, it is not within NMFS' jurisdiction to impose a moratorium on offshore wind development or to require surveys to cease on the basis of unsupported speculation.

NMFS reiterates that there is no evidence that noise resulting from offshore wind development-related site characterization surveys could potentially cause marine mammal strandings, and there is no evidence linking recent large whale mortalities and currently ongoing surveys. The commenters offer no such evidence. NMFS will continue to gather data to help us determine the cause of death for these stranded whales. We note the Marine Mammal Commission's recent statement: "There continues to be no evidence to link these large whale strandings to offshore wind energy development, including no evidence to link them to sound emitted during wind development-related site characterization surveys, known as HRG surveys. Although HRG surveys have been occurring off New England and the mid-Atlantic coast, HRG devices have never been implicated or causatively-associated with baleen whale strandings." (Marine Mammal Commission Newsletter, Spring 2023).

There is an ongoing Unusual Mortality Event (UME) for humpback whales along the Atlantic coast from Maine to Florida, which includes animals stranded since 2016. Partial or full necropsy examinations were conducted on approximately half of the whales. Necropsies were not conducted on other carcasses because they were too decomposed, not brought to land, or stranded on protected lands (*e.g.*, national and state parks) with limited or no access. Of the whales examined (roughly 90), about 40 percent

had evidence of human interaction, either ship strike or entanglement. Vessel strikes and entanglement in fishing gear are the greatest human threats to large whales. The remaining 50 necropsied whales either had an undetermined cause of death (due to a limited examination or decomposition of the carcass), or had other causes of death including parasite-caused organ damage and starvation.

Acoustic sources used in these HRG surveys are very different from seismic airguns used in oil and gas surveys and produce much smaller impact zones because, in general, they have lower source levels and produce output at higher frequencies. The area within which HRG sources might behaviorally disturb a marine mammal is orders of magnitude smaller than the impact areas for seismic airguns or military sonar. Any marine mammal exposure would be at significantly lower levels and shorter duration, which is associated with less severe impacts to marine mammals.

The best available science indicates that only Level B harassment, or disruption of behavioral patterns (*e.g.,* avoidance), may occur as a result of Atlantic Shores' HRG surveys. NMFS emphasizes that there is no credible scientific evidence available suggesting that mortality and/or serious injury is a potential outcome of the planned survey activity. Additionally, NMFS cannot authorize mortality or serious injury via an IHA, and such taking is prohibited under Condition 3(c) of the IHA and may result in modification, suspension, or revocation of the IHA. NMFS notes there has never been a report of any serious injuries or mortalities of a marine mammal associated with site characterization surveys.

We also refer to the Greater Atlantic Regional Fisheries Office (GARFO) 2021 Programmatic Consultation, which finds that these survey activities are in general not likely to adversely affect Endangered Species Act (ESA)-listed marine mammal species (*i.e.*, GARFO's analysis conducted pursuant to the ESA finds that marine mammals are not likely to be taken at all (as that term is defined under the ESA), much less be taken by

serious injury or mortality). That document is found at *https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-take-reporting-programmatics-greater-atlantic#offshore-wind-site-assessment-and-site-characterization-activities-programmatic-consultation*.

Comment 3: Green Oceans claims that the proposed IHA does not properly value biodiversity in its assessment of harm and that "impacts to the abundance or distribution of marine mammals can disrupt vital systems that regulate the ocean and the climate." Green Oceans further claims that NMFS dismisses the effects of habitat displacement or abandonment on North Atlantic right whales (NARWs) from the project.

Response: Green Oceans provides no further development of this comment, *e.g.*, in what way it believes that the MMPA requires that "biodiversity" be accounted for in the analyses required under the MMPA, how it believes that these surveys would be likely to impact the abundance or distribution of marine mammals, or how such impacts might be likely to disrupt unspecified "vital systems." However, we reiterate that the magnitude of behavioral harassment authorized is very low and the severity of any behavioral responses are expected to be primarily limited to temporary displacement and avoidance of the area when some activities that have the potential to result in harassment are occurring (see **Negligible Impact Determinations** section for our full analysis). NMFS does not anticipate that marine mammals would be permanently displaced or displaced for extended periods of time from the area where Atlantic Shores' marine site characterization surveys would occur, and commenters do not provide evidence that this effect should be a reasonably anticipated outcome of the specified activity. We expect temporary avoidance to occur, at worst, but that is distinctly different from displacement, which suggests longer-term, reduced usage of habitat. Similarly, NMFS is not aware of any scientific information suggesting that the survey activity would cause meaningful shifts in abundance and distribution of marine mammals and disagrees that this would be

a reasonably anticipated effect of the specified activities. The authorized take of NARWs by Level B harassment is precautionary but considered unlikely as NMFS' take estimation analysis does not account for the use of mitigation and monitoring measures (*e.g.,* the requirement for Atlantic Shores to implement a shutdown zone for NARWs (500 m) that is more than three times as large as the estimated harassment zone (141 m)). These requirements are expected to largely eliminate the actual occurrence of Level B harassment events and to the extent that harassment does occur, would minimize the duration and severity of any such events. Level B harassment authorized by this IHA is not expected to negatively impact abundance or distribution of other marine mammal species particularly given that it does not account for the suite of mitigation and monitoring measures NMFS has prescribed, and would be comprised of temporary low severity impacts, with no lasting biological consequences. Therefore, even if marine mammals are in the area of the specified activities, a displacement impact is not anticipated.

Comment 4: Commenters stated that NMFS was not utilizing the best available science when assessing impacts to marine mammals. Green Oceans asserted that NMFS had not fully considered the effect of the project on NARWs, claiming that "90% of the population could be affected" by the proposed survey.

Response: NMFS relied upon the best scientific evidence available, including, but not limited to, the most recent Stock Assessment Report (SAR) data, scientific literature, and Duke University's density models (Roberts *et al.*, 2023), in analyzing the impacts of Atlantic Shores' specified activities on marine mammals. While commenters suggest generally that NMFS consider the best scientific evidence available, none of the commenters provided additional relevant scientific information for NMFS to consider.

NMFS determined that Atlantic Shores' surveys have the potential to take marine mammals by Level B harassment and does not anticipate or authorize mortality (death),

serious injury, or Level A harassment of any marine mammal species, including NARW. Atlantic Shores requested and NMFS is authorizing only five takes of NARWs by Level B harassment, which is less than 2 percent of the population. Further, NMFS does not expect that the generally short-term, intermittent, and transitory nature of Atlantic Shores' marine site characterization survey activities will create conditions of acute or chronic acoustic exposure leading to long-term physiological stress responses in marine mammals.

Comment 5: Green Oceans states that the "precautionary principle" does not allow NMFS to authorize the "introduction of stressors" to populations undergoing an UME, that authorization of take for such species "violates the spirit and intent of the MMPA," and that NMFS is "precluded from authorizing wind energy development" in habitat utilized by relevant species for which there are active UMEs (*i.e.*, humpback, minke, and North Atlantic right whales).

Response: Green Oceans refers to supposed standards that do not exist in the MMPA, *e.g.*, the MMPA contains no reference to the "precautionary principle," and fails to adequately explain its supposition that NMFS has violated the "spirit and intent" of the MMPA. As described previously, an IHA does not authorize or allow the activity itself but authorizes the take of marine mammals incidental to the "specified activity" for which incidental take coverage is being sought. In this case, NMFS is responding to Atlantic Shores' request to incidentally take marine mammals while engaged in marine site characterization surveys and determining whether the necessary findings can be made based on Atlantic Shores' application. The authorization of Atlantic Shores' survey activities, or any other activities that introduce stressors, is not within NMFS' jurisdiction.

Regarding UMEs, the MMPA does not preclude authorization of take for species or stocks with ongoing UMEs. Rather, NMFS considers the ongoing UME as part of the

environmental baseline for the affected species or stock as part of its negligible impact analyses. Elevated NARW mortalities began in June 2017 and there is an active UME. Overall, preliminary findings support human interactions, specifically vessel strikes and entanglements, as the cause of death for the majority of NARWs. As noted previously, the survey area overlaps a migratory corridor for NARWs. Due to the fact that the survey activities are temporary and the spatial extent of sound produced by the survey would be very small relative to the spatial extent of the available migratory habitat in the biologically important area (BIA), NARW migration is not expected to be impacted by the survey. Given the relatively small size of the ensonified area, it is unlikely that prey availability would be adversely affected by HRG survey operations. Required vessel strike avoidance measures will also decrease risk of ship strike during migration; no ship strike is expected to occur during Atlantic Shores' planned activities. Additionally, only very limited take by Level B harassment of NARWs has been requested and has been authorized by NMFS as HRG survey operations are required to maintain a 500 m shutdown zone for NARWs. The 500 m shutdown zone for NARWs is conservative, considering the Level B harassment isopleth for the most impactful acoustic source (*i.e.*, sparker) is estimated to be 141 m, and thereby minimizes the potential for behavioral harassment of this species. As noted previously, Level A harassment is not expected due to the small permanent threshold shift (PTS) zones associated with HRG equipment types proposed for use. NMFS does not anticipate NARW takes that would result from Atlantic Shores' activities would impact annual rates of recruitment or survival. Thus, any takes that occur would not result in population level impacts.

Elevated humpback whale mortalities have occurred along the Atlantic coast from Maine through Florida since January 2016. Of the cases examined, approximately half had evidence of human interaction (ship strike or entanglement). The UME does not yet provide cause for concern regarding population-level impacts. Despite the UME, the

relevant population of humpback whales (the West Indies breeding population, or distinct population segment (DPS)) remains stable at approximately 12,000 individuals.

Beginning in January 2017, elevated minke whale strandings have occurred along the Atlantic coast from Maine through South Carolina, with highest numbers in Massachusetts, Maine, and New York. This event does not provide cause for concern regarding population level impacts, as the likely population abundance is greater than 20,000 whales. The minke whale UME is currently non-active, with closure pending.

The required mitigation measures are expected to reduce the number and/or severity of takes for all species in Table 2, including those with active UMEs, to the level of least practicable adverse impact. In particular they would provide animals the opportunity to move away from the sound source throughout the survey area before HRG survey equipment reaches full energy, thus preventing them from being exposed to sound levels that have the potential to cause injury (Level A harassment) or more severe Level B harassment. No Level A harassment is anticipated, even in the absence of mitigation measures, or authorized.

NMFS expects that takes would be in the form of short-term Level B behavioral harassment by way of brief startling reactions and/or temporary vacating of the area, or decreased foraging (if such activity was occurring)—reactions that (at the scale and intensity anticipated here) are considered to be of low severity, with no lasting biological consequences. Since both the sources and marine mammals are mobile, animals would only be exposed briefly to a small ensonified area that might result in take. Additionally, required mitigation measures would further reduce exposure to sound that could result in more severe behavioral harassment.

Comment 6: Some commenters objected to NMFS' small numbers and negligible impact determinations for the numbers of marine mammals, particularly NARWs, taken by Level B harassment under Atlantic Shores' planned activities. Green Oceans claims

that NMFS' determination is "arbitrary and capricious," in part because it fails to account for the total amount of take for a given species across all current wind development activities for which NMFS has issued incidental take authorizations (ITAs). Green Oceans also claims that, for Atlantic Shores, NMFS is violating the "intent of the MMPA" by proposing to authorize incidental take for "over 12 percent of the stock for over 8 species." Green Oceans also states that NMFS' small numbers finding "fails to consider the conservation status of the [NARW]."

Response: NMFS disagrees with the commenters' arguments on the topic of small numbers and negligible impact findings, and the commenters do not provide a reasoned basis for finding the effects of the specified activity would be greater than negligible on any species or stock. The Negligible Impact Analysis and Determination section of the proposed and final 2022 IHA (87 FR 38067, April 27, 2022; 87 FR 50293, August 16, 2022) provides a detailed qualitative discussion supporting NMFS' determination that any anticipated impacts from this action would be negligible. The section contains a number of factors that were considered by NMFS based on the best available scientific data and why we concluded that impacts resulting from the specified activity are not reasonably expected to, or reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.

Although there is limited legislative history available to guide NMFS and an apparent lack of biological underpinning to the concept, we have worked to develop a reasoned approach to small numbers. NMFS explains the concept of "small numbers" in recognition that there could also be quantities of individuals taken that would correspond with "medium" and "large" numbers. As such, for an individual incidental take authorization, NMFS considers that one-third of the most appropriate population abundance number—as compared with the assumed number of individuals taken—

is an appropriate limit with regard to "small numbers." This relative approach is consistent with the statement from the legislative history that "[small numbers] is not capable of being expressed in absolute numerical limits" (H.R. Rep. No. 97-228, at 19 (September 16, 1981)), and relevant case law (Center for Biological Diversity v. Salazar, 695 F.3d 893, 907 (9th Cir. 2012) (holding that the U.S. Fish and Wildlife Service reasonably interpreted "small numbers" by analyzing take in relative or proportional terms)). As noted above, there is no biological significance associated with "small numbers" and, as such, NMFS appropriately does not consider "conservation status" or other issues related to the status of a species or stock in making its small numbers finding. Instead, these concepts are appropriately considered as part of the negligible impact analysis—consideration of "conservation status" as part of the small numbers finding, as Green Oceans suggests, would inappropriately conflate these two independent findings.

Atlantic Shores requested, and NMFS proposed to authorize, incidental take that amounts to less than 2 percent of the Western Atlantic stock of NARWs, Gulf of Maine stock of humpback whales, and Western North Atlantic stock of gray seals, and less than 1 percent of all other stocks, values which do not align with those presented by Green Oceans—which do not appear to relate to the proposed action.

NMFS has made the necessary small numbers finding for all affected species and stocks, specifically for the issuance of the Atlantic Shores IHA.

Comment 7: Oceana and Green Oceans noted that chronic stressors are an emerging concern for NARW conservation and recovery, and stated that chronic stress may result in energetic effects for North Atlantic right whales. Oceana and Green Oceans suggested that NMFS has not fully considered both the use of the area and the effects of both acute and chronic stressors on the health and fitness of North Atlantic right whales, as disturbance responses in North Atlantic right whales could lead to chronic stress or

habitat displacement, leading to an overall decline in their health and fitness.

Response: NMFS agrees with Oceana and Green Oceans that both acute and chronic stressors are of concern for NARW conservation and recovery. We recognize that acute stress from acoustic exposure is one potential impact of these surveys, and that chronic stress can have fitness, reproductive, *etc.* impacts at the population-level scale. NMFS has carefully reviewed the best available scientific information in assessing impacts to marine mammals, and recognizes that Atlantic Shores' surveys have the potential to impact marine mammals through behavioral effects, stress responses, and auditory masking. However, NMFS does not expect that the generally short-term, intermittent, and transitory marine site characterization survey activities planned by Atlantic Shores will create conditions of acute or chronic acoustic exposure leading to long-term physiological stress responses in marine mammals. NMFS has prescribed a robust suite of mitigation measures, including extended distance shutdowns for NARW that are expected to further reduce the duration and intensity of acoustic exposure, while limiting the potential severity of any possible behavioral disruption, and may prevent any actual harassment from occurring under this IHA. The potential for chronic stress was evaluated in making the determinations presented in NMFS' negligible impact analyses. Although Green Oceans correctly states that Atlantic Shores' surveys would occur in the NARW migratory corridor, they incorrectly claim that the project area is a known feeding habitat for NARWs and that any displacement would have "devastating effects on the species." NMFS does not anticipate that NARWs would be displaced from the area where Atlantic Shores' marine site characterization surveys would occur, and neither comment provides evidence that this effect should be a reasonably anticipated outcome of the specified activity.

Similarly, NMFS is not aware of any scientific information suggesting that the survey activity would drive marine mammals out of the survey area, and disagrees that

this would be a reasonably anticipated effect of the specified activities. The take by Level B harassment authorized by NMFS is precautionary and also considered unlikely to actually occur, as NMFS' take estimation process does not account for the use of extremely precautionary mitigation measures, *e.g.*, the requirement for Atlantic Shores to implement a Shutdown Zone that is more than 3 times as large as the estimated harassment zone. These requirements are expected to largely eliminate the actual occurrence of Level B harassment events and, to the extent that harassment does occur, would minimize the duration and severity of any such events. Therefore, even if a NARW was in the area of Atlantic Shores' surveys, a displacement impact is not anticipated.

Because NARW generally use this location in a transitory manner, specifically for migration, any potential impacts from these surveys are lessened for other behaviors due to the brief periods where exposure is possible. Thus, the transitory nature of occurrence of NARWs as they migrate means it is unlikely for any exposure to cause chronic effects, as Atlantic Shores' planned survey area and ensonified zones are small relative to the overall migratory corridor. As such, NMFS does not expect acute or cumulative stress to be a detrimental factor to NARWs from Atlantic Shores' described survey activities. The potential for impacts related to an overall increase in the amount of other OSW development activities is separate from the aforementioned analysis of potential for impacts from the specified survey activities and is not discussed further as it is outside the scope of this specific action.

Comment 8: Green Oceans criticized NMFS's use of the 160-decibel (dB) root mean square (rms) Level B harassment threshold, stating that the threshold is based on outdated information and that the best available science shows that behavioral impacts can occur at levels below the threshold. Criticism of our use of this threshold also focused on its nature as a step function, *i.e.*, it assumes animals don't respond to received noise

levels below the threshold but always do respond at higher received levels. Green Oceans also suggests that reliance on this threshold results in consistent underestimation of impacts because it is "not sufficiently conservative" and that any determination that relies on this threshold is "arbitrary and capricious." Green Oceans implied that NMFS should revise its generalized behavioral take thresholds to mirror linear risk functions to account for intraspecific and contextual variability, and potential impacts at lower received levels (particularly for baleen whales).

Response: NMFS acknowledges that the 160-dB rms step-function approach is simplistic, and that an approach reflecting a more complex probabilistic function may more effectively represent the known variation in responses at different levels due to differences in the receivers, the context of the exposure, and other factors. Green Oceans suggested that our use of the 160-dB threshold implies that we do not recognize the science indicating that animals may react in ways constituting behavioral harassment when exposed to lower received levels. However, we do recognize the potential for Level B harassment at exposures to received levels below 160 dB rms, in addition to the potential that animals exposed to received levels above 160 dB rms will not respond in ways constituting behavioral harassment. These comments appear to evidence a misconception regarding the concept of the 160-dB threshold. While it is correct that in practice it works as a step-function, *i.e.*, animals exposed to received levels above the threshold are considered to be "taken" and those exposed to levels below the threshold are not, it is in fact intended as a sort of mid-point of likely behavioral responses (which are extremely complex depending on many factors including species, noise source, individual experience, and behavioral context). What this means is that, conceptually, the function recognizes that some animals exposed to levels below the threshold will in fact react in ways that are appropriately considered take, while others that are exposed to levels above the threshold will not. Use of the 160-dB threshold allows for a simple

quantitative estimate of take, while we can qualitatively address the variation in responses across different received levels in our discussion and analysis.

We also note Green Oceans' statement that the 160-dB threshold is "not sufficiently conservative." Green Oceans does not further describe the standard of conservatism that it believes NMFS must attain, or how that standard relates to the legal requirements of the MMPA. Green Oceans goes on to imply that use of the 160-dB threshold is inappropriate because it addresses only exposures that cause disturbance, versus those exposures that present the potential to disturb through disruption of behavioral patterns. Green Oceans does not further develop this comment or offer any justification for this contention. NMFS affirms that use of the 160-dB criterion is expected to be inclusive of acoustic exposures presenting the potential to disturb through disruption of behavioral patterns, as required through the MMPA's definition.

Green Oceans cites reports of changes in vocalization, typically for baleen whales, as evidence in support of a lower threshold than the 160-dB threshold currently in use. A mere reaction to noise exposure does not, however, mean that a take by Level B harassment, as defined by the MMPA, has occurred. For a take to occur requires that an act have "the potential to disturb by causing disruption of behavioral patterns," not simply result in a detectable change in motion or vocalization. Even a moderate cessation or modification of vocalization might not appropriately be considered as being of sufficient severity to result in take (Ellison *et al.,* 2012). Green Oceans claims these reactions result in biological consequences indicating that the reaction was indeed a take but does not provide a well-supported link between the reported reactions at lower received levels and the claimed consequences.

Overall, there is a lack of scientific consensus regarding what criteria might be more appropriate. Defining sound levels that disrupt behavioral patterns is difficult because responses depend on the context in which the animal receives the sound,

including an animal's behavioral mode when it hears sounds (*e.g.,* feeding, resting, or migrating), prior experience, and biological factors (*e.g.,* age and sex). Other contextual factors, such as signal characteristics, distance from the source, and signal to noise ratio, may also help determine response to a given received level of sound. Therefore, levels at which responses occur are not necessarily consistent and can be difficult to predict (Southall *et al.,* 2007, 2019; Ellison *et al.,* 2012; Bain and Williams, 2006; Gomez *et al.*, 2016).

Green Ocean references linear risk functions developed for use specifically in evaluating the potential impacts of Navy tactical sonar. However, Green Oceans provides no suggestion regarding a risk function that it believes would be appropriate for use in this case. There is currently no agreement on these complex issues, and this threshold has remained in use in part because of the practical need to use a relatively simple threshold based on available information that is both predictable and measurable for most activities.

Comment 9: Oceana raised objections to NMFS' proposed renewal process for potential extension of the 1-year IHA with an abbreviated 15-day public comment period. Oceana recommended that an additional 30-day public comment period is necessary for any IHA renewal request.

Response: NMFS' IHA renewal process meets all statutory requirements. In prior responses to comments about IHA renewals (*e.g.,* 84 FR 52464, October 2, 2019; 85 FR 53342, August 28, 2020), NMFS explained the IHA renewal process is consistent with the statutory requirements contained in section 101(a)(5)(D) of the MMPA, and further, promotes NMFS' goals of improving conservation of marine mammals and increasing efficiency in the MMPA compliance process. Therefore, we intend to continue to implement the existing renewal process.

All IHAs issued, whether an initial IHA or a renewal, are valid for a period of not more than 1 year. The public has 30 days to comment on proposed IHAs, with a

cumulative total of 45 days for IHA renewals. The notice of the proposed IHA published in the **Federal Register** on June 28, 2023 (88 FR 41912) provided a 30-day public comment period and made clear that NMFS was seeking comment on the proposed IHA and the potential issuance of a renewal for this survey. As detailed in the **Federal Register** notice for the proposed IHA and on the agency's website, eligibility for renewal is determined on a case-by-case basis, renewals are subject to an additional 15-day public comment period, and the renewal is limited to up to another year of identical or nearly identical activities as described in the **Description of Proposed Activities** section of the proposed IHA notice or the activities described in the **Description of Proposed Activities** section of the proposed IHA notice would not be completed by the time the IHA expires and a renewal would allow for completion of the activities beyond that described in the *Dates and Duration* section of this notice of the proposed IHA (88 FR 41912, June 28, 2023). NMFS' analysis of the anticipated impacts on marine mammals caused by the applicant's activities covers both the initial IHA period and the possibility of a 1-year renewal. Therefore, a member of the public considering commenting on a proposed initial IHA also knows exactly what activities (or subset of activities) would be included in a proposed renewal IHA, the potential impacts of those activities, the maximum amount and type of take that could be caused by those activities, the mitigation and monitoring measures that would be required, and the basis for the agency's negligible impact determinations, least practicable adverse impact findings, small numbers findings, and (if applicable) the no unmitigable adverse impact on subsistence use finding—all the information needed to provide complete and meaningful comments on a possible renewal at the time of considering the proposed initial IHA. Reviewers have the information needed to meaningfully comment on both the immediate proposed IHA and a possible 1-year renewal, should the IHA holder choose to request one.

While there would be additional documents submitted with a renewal request, for

a qualifying renewal these would be limited to documentation that NMFS would make available and use to verify that the activities are identical to those in the initial IHA, are nearly identical such that the changes would have either no effect on impacts to marine mammals or decrease those impacts, or are a subset of activities already analyzed and authorized but not completed under the initial IHA. NMFS would also need to confirm, among other things, that the activities would occur in the same location; involve the same species and stocks; provide for continuation of the same mitigation, monitoring, and reporting requirements; and that no new information has been received that would alter the prior analysis. The renewal request would also contain a preliminary monitoring report, in order to verify that effects from the activities do not indicate impacts of a scale or nature not previously analyzed. The additional 15-day public comment period, which includes NMFS' direct notice to anyone who commented on the proposed initial IHA, provides the public an opportunity to review these few documents, provide any additional pertinent information, and comment on whether they think the criteria for a renewal have been met. Combined together, the 30-day public comment period on the initial IHA and the additional 15-day public comment period on the renewal of the same or nearly identical activities, provides the public with a total of 45 days to comment on the potential for renewal of the IHA.

In addition to the IHA renewal process being consistent with all requirements under section 101(a)(5)(D) of the MMPA, it is also consistent with Congress' intent for issuance of IHAs to the extent reflected in statements in the legislative history of the MMPA. Through the description of the process and express invitation to comment on specific potential renewals in the Request for Public Comments section of each proposed IHA, the description of the process on NMFS' website, further elaboration on the process through responses to comments such as these, posting of substantive documents on the agency's website, and provision of 30 or 45 days for public review and comment on all

proposed initial IHAs and renewals respectively, NMFS has ensured that the public is "invited and encouraged to participate fully in the agency's decision-making process," as Congress intended.

Comment 10: Several commenters asserted that NMFS must fully consider the discrete effects of each activity and the cumulative effects of the suite of approved, proposed and potential activities on marine mammals and North Atlantic right whales in particular and ensure that the cumulative effects are not excessive before issuing or renewing an IHA.

Response: Neither the MMPA nor NMFS' codified implementing regulations call for consideration of other unrelated activities and their impacts on marine mammal populations. The preamble for NMFS' implementing regulations (54 FR 40338, September 29, 1989) states in response to comments that the impacts from other past and ongoing anthropogenic activities are to be incorporated into the negligible impact analysis via their impacts on the baseline. Consistent with that direction, NMFS has factored into its negligible impact analysis the impacts of other past and ongoing anthropogenic activities via their impacts on the baseline, *e.g.,* as reflected in the density, distribution and status of the species, population size and growth rate, and other relevant stressors. The 1989 final rule for the MMPA implementing regulations also addressed public comments regarding cumulative effects from future, unrelated activities. There, NMFS stated that such effects are not considered in making findings under MMPA section 101(a)(5) concerning negligible impact. In this case, this IHA, as well as other IHAs currently in effect or proposed within the specified geographic region, are appropriately considered an unrelated activity relative to the others. The IHAs are unrelated in the sense that they are discrete actions under section 101(a)(5)(D), issued to discrete applicants.

Section 101(a)(5)(D) of the MMPA requires NMFS to make a determination that

the take incidental to a "specified activity" will have a negligible impact on the affected species or stocks of marine mammals. NMFS' implementing regulations at 50 CFR 216.104(a)(1) require applicants to include in their request a detailed description of the specified activity or class of activities that can be expected to result in incidental taking of marine mammals. Thus, the "specified activity" for which incidental take coverage is being sought under section 101(a)(5)(D) is generally defined and described by the applicant. Here, Atlantic Shores was the applicant for the IHA, and we are responding to the specified activity as described in that application and making the necessary findings on that basis.

Through the response to public comments in the 1989 implementing regulations, NMFS also indicated (1) that we would consider cumulative effects that are reasonably foreseeable when preparing a National Environmental Policy Act (NEPA) analysis, and (2) that reasonably foreseeable cumulative effects would also be considered under section 7 of the ESA for ESA-listed species, as appropriate. Accordingly, NMFS has written Environmental Assessments (EA) that addressed cumulative impacts related to substantially similar activities, in similar locations (*e.g.,* the 2019 Avangrid EA for survey activities offshore North Carolina and Virginia; the 2017 Ocean Wind, LLC EA for site characterization surveys off New Jersey; and the 2018 Deepwater Wind EA for survey activities offshore Delaware, Massachusetts, and Rhode Island). Cumulative impacts regarding issuance of IHAs for site characterization survey activities such as those planned by Atlantic Shores have been adequately addressed under NEPA in prior environmental analyses that support NMFS' determination that this action is appropriately categorically excluded from further NEPA analysis. NMFS independently evaluated the use of a categorical exclusion (CE) for issuance of Atlantic Shores' IHA, which included consideration of extraordinary circumstances.

Separately, the cumulative effects of substantially similar activities in the

northwest Atlantic Ocean have been analyzed in the past under section 7 of the ESA when NMFS has engaged in formal intra-agency consultation, such as the 2013 programmatic Biological Opinion for BOEM Lease and Site Assessment Rhode Island, Massachusetts, New York, and New Jersey Wind Energy Areas (*https://repository.library.noaa.gov/view/noaa/29291*). Analyzed activities include those for which NMFS issued previous IHAs (82 FR 31562, July 7, 2017; 85 FR 21198, April 16, 2020; 86 FR 26465, May 10, 2021), which are similar to those planned by Atlantic Shores under this current IHA request. This Biological Opinion (BiOp) determined that NMFS' issuance of IHAs for site characterization survey activities associated with leasing, individually and cumulatively, are not likely to adversely affect listed marine mammals. NMFS notes that, while issuance of this IHA is covered under a different consultation, this BiOp remains valid.

Comment 11: SLC states its opposition to the use of a categorical exclusion under NEPA, asserting that, at minimum, an Environmental Assessment is the appropriate level of review.

Response: NMFS does not agree with SLC's comment. A CE is a category of actions that an agency has determined does not individually or cumulatively have a significant effect on the quality of the human environment, and is appropriately applied for such categories of actions so long as there are no extraordinary circumstances present that would indicate that the effects of the action may be significant. Extraordinary circumstances are situations for which NOAA has determined further NEPA analysis is required because they are circumstances in which a normally excluded action may have significant effects. A determination of whether an action that is normally excluded requires additional evaluation because of extraordinary circumstances focuses on the action's potential effects and considers the significance of those effects in terms of both context (consideration of the affected region, interests, and resources) and intensity

(severity of impacts). Potential extraordinary circumstances relevant to this action include (1) adverse effects on species or habitats protected by the MMPA that are not negligible; (2) highly controversial environmental effects; (3) environmental effects that are uncertain, unique, or unknown; and (4) the potential for significant cumulative impacts when the proposed action is combined with other past, present, and reasonably foreseeable future actions.

The relevant NOAA CE associated with issuance of incidental take authorizations is CE B4, "Issuance of incidental harassment authorizations under Section 101(a)(5)(A) and (D) of the MMPA for the incidental, but not intentional, take by harassment of marine mammals during specified activities and for which no serious injury or mortality is anticipated." This action falls within CE B4. In determining whether a CE is appropriate for a given incidental take authorization, NMFS considers the applicant's specified activity and the potential extent and magnitude of takes of marine mammals associated with that activity along with the extraordinary circumstances listed in the Companion Manual for NOAA Administrative Order (NAO) 216-6A and summarized above. The evaluation of whether extraordinary circumstances (if present) have the potential for significant environmental effects is limited to the decision NMFS is responsible for, which is issuance of the incidental take authorization. While there may be environmental effects associated with the underlying action, potential effects of NMFS' action are limited to those that would occur due to the authorization of incidental take of marine mammals. NMFS prepared numerous EAs analyzing the environmental impacts of the categories of activities encompassed by CE B4 which resulted in Findings of No Significant Impact (FONSIs) and, in particular, EAs prepared in support of issuance of IHAs related to similar survey actions are part of NMFS' administrative record supporting CE B4. These EAs demonstrate the issuance of a given incidental harassment authorization does not affect other aspects of the human environment because

the action only affects the marine mammals that are the subject of the incidental harassment authorization. These EAs also addressed factors in 40 CFR 1508.27 regarding the potential for significant impacts and demonstrate the issuance of incidental harassment authorization for the categories of activities encompassed by CE B4 do not individually or cumulatively have a significant effect on the human environment.

Specifically for this action, NMFS independently evaluated the use of the CE for issuance of Atlantic Shores' IHA, which included consideration of extraordinary circumstances. As part of that analysis, NMFS considered whether this IHA issuance would result in cumulative impacts that could be significant. In particular, the issuance of an IHA to Atlantic Shores is expected to result in minor, short-term behavioral effects on marine mammal species due to exposure to underwater sound from site characterization survey activities. Behavioral disturbance is possible to occur intermittently in the vicinity of Atlantic Shores' survey area during the 1-year timeframe. Level B harassment will be reduced through use of mitigation measures described herein. Additionally, as discussed elsewhere, NMFS has determined that Atlantic Shores' activities fall within the scope of activities analyzed in GARFO's programmatic consultation regarding geophysical surveys along the U.S. Atlantic coast in the three Atlantic Renewable Energy Regions (completed June 29, 2021; revised September 2021), which concluded surveys such as those planned by Atlantic Shores are not likely to adversely affect ESA-listed species or adversely modify or destroy critical habitat. Accordingly, NMFS has determined that the issuance of this IHA will result in no more than negligible (as that term is defined by the Companion Manual for NAO 216-6A) adverse effects on species protected by the ESA and the MMPA.

Further, the issuance of this IHA will not result in highly controversial environmental effects or result in environmental effects that are uncertain, unique, or unknown because numerous entities have been engaged in site characterization surveys

that result in Level B harassment of marine mammals in the United States. This type of activity is well documented; prior authorizations and analysis demonstrates issuance of an IHA for this type of action only affects the marine mammals that are the subject of the specific authorization and, thus, no potential for significant cumulative impacts are expected, regardless of past, present, or reasonably foreseeable actions, even though the impacts of the action may not be significant by itself. Based on this evaluation, we concluded that the issuance of the IHA qualifies to be categorically excluded from further NEPA review.

Comment 12: SLC asserts that NMFS is permitting the proposed activities without any empirically-determined benchmark for what is the injury-causing sound pressure level ("SPL") against which to measure the proposed activities. In addition, SLC indicates that basing the shutdown and clearance distances on PTS thresholds is insufficient as PTS thresholds are modeled from temporary threshold shift (TTS) data and threshold for tissue injury may occur at a lower level than TTS.

Response: NMFS does not agree with the commenter that shutdown and clearance distances based upon PTS thresholds are insufficient due to thresholds being modeled from TTS data. Marine mammal PTS thresholds are appropriately extrapolated from marine mammal TTS data and data from terrestrial mammals, as described in NMFS' 2018 Technical Guidance. We refer the commenter to that guidance. Further, TTS is not considered injury, as defined for Level A harassment under the MMPA, because it is fully recoverable.

Comment 13: Oceana states that NMFS must make an assessment of which activities, technologies and strategies are truly necessary to achieve site characterization to inform development of the offshore wind projects and which are not critical, asserting that NMFS should prescribe the appropriate survey techniques. In general, Oceana stated that NMFS must require the IHA applicant to avoid adverse effects on NARWs in and

around the survey site, and then minimize and mitigate the impacts of underwater noise to the fullest extent feasible, including through the use of best available technology and methods to minimize sound levels from geophysical surveys such as through the use of technically and commercially feasible and effective noise reduction and attenuation measures.

Response: The MMPA requires that an IHA include measures that will effect the least practicable adverse impact on the affected species and stocks and, in practice, NMFS agrees that the IHA should include conditions for the survey activities that will first avoid adverse effects on NARWs in and around the survey site, where practicable, and then minimize the effects that cannot be avoided. NMFS has determined that the IHA meets this requirement to effect the least practicable adverse impact. As part of the analysis for all marine site characterization survey IHAs, NMFS evaluated the effects expected as a result of the specified activity, made the necessary findings, and prescribed mitigation requirements sufficient to achieve the least practicable adverse impact on the affected species and stocks of marine mammals. It is not within NMFS' purview to set the activities, technologies, and strategies that applicants may employ to meet their objectives. As explained above, the "specified activity" for which incidental take coverage is being sought under section 101(a)(5)(D) is defined and described by the applicant, not by NMFS.

Comment 14: Oceana suggests that NMFS require the use of Protected Species Observers (PSOs) and that PSOs complement their survey efforts using additional technologies, such as infrared detection devices when in low-light conditions. In addition, COA noted a lack of standardization for PSOs which could result in differences in recorded take responses, and urged NMFS to incorporate updated guidance on national standards for PSOs and data management into the take authorization process.

Response: NMFS agrees with the commenters regarding these suggestions and

requirements to utilize PSOs for monitoring, for PSOs to use a thermal (infrared) device during low-light conditions, and to include updated standardization of PSO requirements and data management. These requirements were included in the proposed **Federal Register** Notice as well as in the issued IHA.

The report that COA references, National Standards for a Protected Species Observer and Data Management Program: A Model Using Geological and Geophysical Surveys (Baker *et al.,* 2013), currently serves as a basis for NMFS' current standardized PSO requirements, specifically review of PSO qualifications as well as collecting and reporting data.

Comment 15: Oceana recommended that NMFS restrict all vessels of all sizes associated with the proposed survey activities to speeds less than 10 knots (kn) (18.5 km/hour) at all times due to the risk of vessel strikes to NARWs and other large whales.

Response: While NMFS acknowledges that vessel strikes can result in injury or mortality, we have analyzed the potential for vessel strike resulting from Atlantic Shores' activity and have determined that based on the nature of the activity and the required mitigation measures specific to vessel strike avoidance included in the IHA, potential for vessel strike is so low as to be discountable. The required mitigation measures, all of which were included in the proposed IHA and are now required in the final IHA, include: A requirement that all vessel operators comply with 10 kn (18.5 km/hour) or less speed restrictions in any Seasonal Management Area (SMA), Dynamic Management Area (DMA), or Slow Zone while underway, and check daily for information regarding the establishment of mandatory or voluntary vessel strike avoidance areas (SMAs, DMAs, Slow Zones) and information regarding NARW sighting locations; a requirement that all vessels greater than or equal to 19.8 meters (m) in overall length operating from November 1 through April 30 operate at speeds of 10 kn (18.5 km/hour) or less; a requirement that all vessel operators reduce vessel speed to 10 kn (18.5 km/hour) or less

when any large whale, any mother/calf pairs, pods, or large assemblages of non-delphinid cetaceans are observed near the vessel; a requirement that all survey vessels maintain a separation distance of 500 m or greater from any ESA-listed whales or other unidentified large marine mammals visible at the surface while underway; a requirement that, if underway, vessels must steer a course away from any sighted ESA-listed whale at 10 kn (18.5 km/hour) or less until the 500 m minimum separation distance has been established; a requirement that, if an ESA-listed whale is sighted in a vessel's path, or within 500 m of an underway vessel, the underway vessel must reduce speed and shift the engine to neutral; a requirement that all vessels underway must maintain a minimum separation distance of 100 m from all non-ESA-listed baleen whales; and a requirement that all vessels underway must, to the maximum extent practicable, attempt to maintain a minimum separation distance of 50 m from all other marine mammals, with an understanding that at times this may not be possible (*e.g.,* for animals that approach the vessel). We have determined that the vessel strike avoidance measures in the IHA are sufficient to ensure the least practicable adverse impact on species or stocks and their habitat. Furthermore, no documented vessel strikes have occurred for any marine site characterization surveys which were issued IHAs from NMFS during the survey activities themselves or while transiting to and from survey sites.

Comment 16: Oceana suggests that NMFS require vessels maintain a separation distance of at least 500 m from NARWs at all times.

Response: NMFS agrees with Oceana regarding this suggestion and a requirement to maintain a separation distance of at least 500 m from NARWs at all times was included in the proposed **Federal Register** Notice and as a requirement in the issued IHA.

Comment 17: Oceana recommended that the IHA should require all vessels supporting site characterization to be equipped with and using Class A Automatic

Identification System (AIS) devices at all times while on the water. Oceana suggested this requirement should apply to all vessels, regardless of size, associated with the survey.

Response: NMFS is generally supportive of the idea that vessels involved with survey activities be equipped with and using Class A Automatic Identification System (devices) at all times while on the water. Indeed, there is a precedent for NMFS requiring such a stipulation for geophysical surveys in the Atlantic Ocean (38 FR 63268, December 7, 2018); however, these activities carried the potential for much more significant impacts than the marine site characterization surveys to be carried out by Atlantic Shores, with the potential for both Level A and Level B harassment take. Given the small isopleths and small numbers of take authorized by this IHA, NMFS does not agree that the benefits of requiring AIS on all vessels associated with the survey activities outweigh and warrant the cost and practicability issues associated with this requirement and therefore the agency has not included this within the issued IHA.

Comment 18: Oceana asserts that the IHA must include requirements to hold all vessels associated with site characterization surveys accountable to the IHA requirements, including vessels owned by the developer, contractors, employees, and others regardless of ownership, operator, and contract. They state that exceptions and exemptions will create enforcement uncertainty and incentives to evade regulations through reclassification and redesignation. They recommend that NMFS simplify this by requiring all vessels to abide by the same requirements, regardless of size, ownership, function, contract or other specifics.

Response: NMFS agrees with Oceana and required these measures in the proposed IHA and final IHA. The IHA requires that a copy of the IHA must be in the possession of Atlantic Shores, the vessel operators, the lead PSO, and any other relevant designees of Atlantic Shores operating under the authority of this IHA. The IHA also states that Atlantic Shores must ensure that the vessel operator and other relevant vessel

personnel, including the PSO team, are briefed on all responsibilities, communication procedures, marine mammal monitoring protocols, operational procedures, and IHA requirements prior to the start of survey activity, and when relevant new personnel join the survey operations.

Comment 19: Oceana stated that the IHA must include a requirement for all phases of site characterization to subscribe to the highest level of transparency, including frequent reporting to Federal agencies. Oceana recommended requirements to report all visual and acoustic detections of NARWs and any dead, injured, or entangled marine mammals to NMFS or the Coast Guard as soon as possible and no later than the end of the PSO shift. Oceana states that to foster stakeholder relationships and allow public engagement and oversight of the permitting, the IHA should require all reports and data to be accessible on a publicly available website.

Response: NMFS agrees with the need for reporting and indeed, the MMPA calls for IHAs to incorporate reporting requirements. As included in the proposed IHA, the final IHA includes requirements for reporting that supports Oceana's recommendations. Atlantic Shores is required to submit a monitoring report to NMFS within 90 days after completion of survey activities that fully documents the methods and monitoring protocols, and summarizes the data recorded during monitoring. PSO datasheets or raw sightings data must also be provided with the draft and final monitoring report.

Further, the draft IHA and final IHA stipulate that if a NARW is observed at any time by any survey vessels, during surveys or during vessel transit, Atlantic Shores must immediately report sighting information to the NMFS NARW Sighting Advisory System within 2 hours of occurrence, when practicable, or no later than 24 hours after occurrence. Atlantic Shores may also report the sighting to the U.S. Coast Guard. Additionally, Atlantic Shores must report any discoveries of injured or dead marine mammals to the NMFS Office of Protected Resources and to the New England/Mid-

Atlantic Regional Stranding Coordinator as soon as feasible. This includes entangled animals. All reports and associated data submitted to NMFS are included on the website for public inspection.

Daily visual and acoustic detections of NARWs and other large whale species along the Eastern Seaboard, as well as Slow Zone locations, are publicly available on WhaleMap (*https://whalemap.org/WhaleMap/*). Further, recent acoustic detections of NARWs and other large whale species are available to the public on NOAA's Passive Acoustic Cetacean Map website *https://apps-nefsc.fisheries.noaa.gov/pacm/#/narw*.

Comment 20: Oceana recommended that for site characterization activities that have the potential to injure or harass NARWs, NMFS require a visual clearance and exclusion zone of at least 1,000 m for NARWs around each vessel conducting activities with noise levels that could result in injury to or harassment of large whales, and also require an acoustic clearance and exclusion zone of at least 1,000 m for NARWs around each vessel conducting activities with noise levels that could harass NARWs.

Response: NMFS notes that the 500 m clearance Zone for NARWs exceeds the modeled distance to the largest 160 dB Level B harassment isopleth (141 m during sparker use) by a substantial margin. Oceana does not provide a compelling rationale for why the clearance zone should be even larger. Given that these surveys are relatively low impact and that, regardless, NMFS has prescribed a NARW clearance zone that is significantly larger (500 m) than the conservatively estimated largest harassment zone (141 m), NMFS has determined that the clearance zone is appropriate.

Comment 21: Oceana recommends a shutdown requirement if a NARW or other ESA-listed species are detected in the clearance zone as well as a publicly available explanation of any exemptions allowing the applicant not to shut down in these situations.

Response: NMFS reiterates that use of the planned sources is not expected to have

any potential to cause injury of any species, including NARW, even in the absence of mitigation. Consideration of the anticipated effectiveness of the mitigation measures (*i.e.*, clearance zones and shutdown measures) discussed below and in the **Description of Mitigation, Monitoring, and Reporting Measures** section of this notice further strengthens the conclusion that injury is not a reasonably anticipated outcome of the survey activity. Nevertheless, there are several shutdown requirements described in the **Federal Register** notice of the proposed IHA (88 FR 41912, June 28, 2023), and which are included in the final IHA, including the stipulation that geophysical survey equipment must be immediately shut down if any marine mammal is observed within or entering the relevant Clearance Zone while geophysical survey equipment is operational. There is no exemption for the shutdown requirement for NARW and ESA-listed species.

Atlantic Shores is required to implement a 30-minute pre-start clearance period prior to the initiation of ramp-up of specified HRG equipment. During this period, clearance zones will be monitored by the PSOs using the appropriate visual technology. Ramp-up may not be initiated if any marine mammal(s) is within its respective clearance zone. If a marine mammal is observed within a clearance zone during the pre-start clearance period, ramp-up may not begin until the animal(s) has been observed exiting its respective exclusion zone or until an additional time period has elapsed with no further sighting (*i.e.,* 15 minutes for small odontocetes and seals, and 30 minutes for all other species). If the acoustic source is shut down for reasons other than mitigation (*e.g.*, mechanical difficulty) for less than 30 minutes, it may be activated again without ramp-up if PSOs have maintained constant observation and no detections of any marine mammal have occurred within the respective clearance zones.

In regards to reporting, Atlantic Shores must notify NMFS if a NARW is observed at any time by any survey vessels during surveys or during vessel transit. Additionally, Atlantic Shores is required to report the relevant survey activity

information, such as the type of survey equipment in operation, acoustic source power output while in operation, and any other notes of significance (*i.e*., pre-clearance survey, ramp-up, shutdown, end of operations, *etc*.) as well as the estimated distance to an animal and its heading relative to the survey vessel at the initial sighting and survey activity information. We note that if a NARW is detected within the Clearance Zone before a shutdown is implemented, the NARW and its distance from the sound source, including if it is within the Level B harassment zone, would be reported in Atlantic Shores' final monitoring report and made publicly available on NMFS' website. Atlantic Shores is required to immediately notify NMFS of any sightings of NARWs and report upon survey activity information. NMFS believes that these requirements address the commenter's concerns.

Comment 22: Oceana recommended that NMFS should require Passive Acoustic Monitoring (PAM) to establish a clearance zone and maximize the probability of detection for NARWs.

Response: NMFS does not agree that a measure to require PAM is warranted, as it is not expected to be effective for use in detecting the species of concern. It is generally accepted that, even in the absence of additional acoustic sources, using a towed passive acoustic sensor to detect baleen whales (including NARWs) is not typically effective because the noise from the vessel, the flow noise, and the cable noise are in the same frequency band and will mask the vast majority of baleen whale calls. Vessels produce low-frequency noise, primarily through propeller cavitation, with main energy in the 5-300 Hertz (Hz) frequency range. Source levels range from about 140 to 195 decibel (dB) re 1 µPa (micropascal) at 1 m (NRC, 2003; Hildebrand, 2009), depending on factors such as ship type, load, and speed, and ship hull and propeller design. Studies of vessel noise show that it appears to increase background noise levels in the 71-224 Hz range by 10-13 dB (Hatch *et al.,* 2012; McKenna *et al.,* 2012; Rolland *et al.,* 2012). PAM systems

employ hydrophones towed in streamer cables approximately 500 m behind a vessel. Noise from water flow around the cables and from strumming of the cables themselves is also low-frequency and typically masks signals in the same range. Experienced PAM operators participating in a recent workshop (Thode *et al.,* 2017) emphasized that a PAM operation could easily report no acoustic encounters, depending on species present, simply because background noise levels rendered any acoustic detection impossible. The same workshop report stated that a typical eight-element array towed 500 m behind a vessel could be expected to detect delphinids, sperm whales, and beaked whales at the required range, but not baleen whales, due to expected background noise levels (including seismic noise, vessel noise, and flow noise).

Comment 23: Oceana recommended that when HRG surveys are allowed to resume after a shutdown event, the surveys should be required to use a ramp-up procedure to encourage any nearby marine life to leave the area.

Response: NMFS agrees with this recommendation and included this requirement in the Federal Register notice of the proposed IHA (88 FR 41912, June 28, 2023) and the final IHA as a stipulation that when technically feasible, survey equipment must be ramped up at the start or restart of survey activities. Ramp-up must begin with the power of the smallest acoustic equipment at its lowest practical power output appropriate for the survey. When technically feasible the power must then be gradually turned up and other acoustic sources added in a way such that the source level would increase gradually. NMFS notes that ramp-up is not required for short periods where acoustic sources were shut down (*i.e.,* less than 30 minutes) if PSOs have maintained constant visual observation and no detections of marine mammals occurred within the applicable Shutdown Zones.

Comment 24: COA states that there is no legal authority for permitting offshore geotechnical and geophysical survey activities under BOEM, based on text from the

proposed BOEM Renewable Energy Modernization proposed rule (88 FR 5968, January 30, 2023; 88 FR 19578, April 3, 2023). They further state that this has allowed for no oversight with regards to surveys off New Jersey and New York and that they do not understand how BOEM can make assertions without regulations/guidance for HRG survey work.

Response: NMFS' statutory authority for this particular action is limited to authorizing incidental take of marine mammals. NMFS respectfully refers the commenter to BOEM, the agency with responsibility for managing development of U.S. Outer Continental Shelf energy and mineral resources in an environmentally and economically responsible way.

Comment 25: COA is concerned regarding the number of species that could be impacted by the activities, as well as a lack of baseline data available for species in the area, specifically for harbor seals.

Response: We appreciate the concern expressed by COA. NMFS utilizes the best available science when analyzing which species may be impacted by an applicant's proposed activities. Based on information found in the scientific literature, as well as based on density models developed by Duke University, all marine mammal species included in the proposed **Federal Register** notice have some likelihood of occurring in Atlantic Shores' survey areas. Furthermore, the MMPA requires us to evaluate the effects of the specified activities in consideration of the best scientific evidence available and, if the necessary findings are made, to issue the requested take authorization. The MMPA does not allow us to delay decision making in hopes that additional information may become available in the future.

Regarding the lack of baseline information cited by COA, with specific concern pointed out for harbor seals, NMFS points to two sources of information for marine mammal baseline information: the Ocean/Wind Power Ecological Baseline Studies,

January 2008 - December 2009 completed by the New Jersey Department of Environmental Protection in July 2010 (*https://dspace.njstatelib.org/xmlui/handle/10929/68435*) and the Atlantic Marine Assessment Program for Protected Species (AMAPPS; *https://www.fisheries.noaa.gov/new-england-mid-atlantic/population-assessments/atlantic-marine-assessment-program-protected*) with annual reports available from 2010 to 2020 (*https://www.fisheries.noaa.gov/resource/publication-database/atlantic-marine-assessment-program-protected-species*) that cover the areas across the Atlantic Ocean. NMFS has duly considered this and all available information.

Based on the information presented, NMFS has determined that no new information has become available, nor do the commenters present additional information, that would change our determinations since the publication of the proposed notice.

Comment 26: COA and SLC assert that Level A harassment may occur, and that this was not accounted for by NMFS.

Response: NMFS acknowledges the concerns brought up regarding the potential for Level A harassment of marine mammals. However, no Level A harassment is expected to result, even in the absence of mitigation, given the characteristics of the sources planned for use. This is additionally supported by the required mitigation, which further reduces the unlikely potential for any Level A harassment to occur, and very small estimated Level A harassment zones described in Atlantic Shores' 2022 **Federal Register** notice (87 FR 50293, August 16, 2022) and carried through to the 2023 IHA (88 FR 41912, June 28, 2023). Furthermore, the commenter does not provide any support for the apparent contention that Level A harassment is a potential outcome of these activities.

As discussed in the notice of proposed IHA, NMFS considers this category of survey operations to be near *de minimis*, with the potential for Level A harassment for any species to be discountable.

Comment 27: COA and Green Oceans expressed concerns regarding the increased amount of vessel traffic associated with the offshore wind project and its impacts on protected resources, as well as concern for vessel noise.

Response: Atlantic Shores did not request authorization for take incidental to vessel traffic during their marine site characterization survey. Nevertheless, NMFS analyzed the potential for vessel strikes to occur during the survey, and determined that the potential for vessel strike is so low as to be discountable. NMFS does not authorize any take of marine mammals incidental to vessel strike resulting from the survey. If Atlantic Shores were to strike a marine mammal with a vessel, this would be an unauthorized take in violation of the MMPA. This gives Atlantic Shores a strong incentive to operate its vessels with all due caution and to effectively implement the suite of vessel strike avoidance measures required by the IHA. Atlantic Shores proposed a very conservative suite of mitigation measures related to vessel strike avoidance, including measures specifically designed to avoid impacts to NARWs. Section 4(g) in the IHA contains a suite of non-discretionary requirements pertaining to vessel strike avoidance, including vessel operation protocols and monitoring. To date, NMFS is not aware of any site characterization vessel from surveys reporting a vessel strike within the United States. When considered in the context of low overall probability of any vessel strike by Atlantic Shores vessels, given the limited additional survey-related vessel traffic relative to existing traffic in the survey area, the comprehensive visual monitoring, and other additional mitigation measures described herein, NMFS believes these measures are sufficiently protective to avoid vessel strike. These measures are described fully in the **Description of Mitigation**, **Monitoring, and Reporting** section below, and include, but are not limited to: training for all vessel observers and captains, daily monitoring of NARW Sighting Advisory System, WhaleAlert app, and USCG Channel 16 for situational awareness regarding NARW presence in the survey area, communication

protocols if whales are observed by any Atlantic Shores personnel, vessel operational protocol should any marine mammal be observed, and visual monitoring.

The potential for impacts related to an overall increase in the amount of vessel traffic due to offshore wind development is separate from the aforementioned analysis of potential for vessel strike during Atlantic Shores' specified survey activities. For more information, please see the response to comment 11 discussing cumulative impacts.

Comment 28: SLC asserts that NMFS' assessment of sound propagation from the proposed activities does not adequately account for sound bouncing off the underside of the water's surface and other surface reflection.

Response: NMFS does not agree with the commenter that NMFS' analysis of sound propagation is insufficient. While the transmission loss model (*i.e.,* spherical spreading) used for HRG sources is fairly simplistic and does not directly account for reflections at the surface, it adequately accounts for how sound would propagate through the environment (note that NMFS' isopleth estimates also account for frequency-dependent absorption), and thus provides a realistic approximation of how sounds from these sources are believed to travel through the environment. Accounting for scattering at the surface is heavily dependent on the roughness of the sea surface, with rougher surfaces resulting in more propagation loss (dB) per bounce as the sound hits the water surface (*i.e.,* this additional dB loss is not accounted for in more simple models). Only flat surfaces would allow for complete reflection of sound.

Comment 29: SLC claims that the weighting curves for low frequency (LF) cetaceans do not align with mysticetes' infrasonic hearing, and urged NMFS to incorporate better estimations for low frequency cetaceans and corresponding thresholds based upon the best available data.

Response: NMFS disagrees that the current low-frequency (LF) cetacean weighting functions are not based on the best available science. While there are very

limited data to inform our understanding of mysticete hearing, the generalized hearing range used by NMFS for mysticetes extends from 7 Hz up to 35 kHz, which reflects recommendations made by Southall *et al.* 2007 and Southall *et al.* 2019. Hearing predictions for mysticetes are based on other methods including: anatomical studies and modeling (Houser *et al.,* 2001; Parks *et al.,* 2007; Tubelli *et al.,* 2012; Cranford and Krysl, 2015); vocalizations (see reviews in Richardson *et al.,* 1995; Wartzok and Ketten, 1999; Au and Hastings, 2008); taxonomy; and behavioral responses to sound (Dahlheim and Ljungblad, 1990; see review in Reichmuth, 2007). The existing weighting functions reflect LF cetacean infrasonic hearing capabilities to the greatest extent allowed by available data.

Comment 30: Green Oceans suggests that the surveys may result in acute injury of whales as a result of rectified diffusion, *i.e.*, bubble growth caused by acoustic exposure.

Response: With regard to Green Oceans' suggestion that acute injury of whales could occur as a result of bubble formation, this effect is extremely unlikely to occur in the circumstances considered here, *i.e*., relatively low-level sound exposure in shallow waters. We acknowledge that non-auditory physiological effects or injuries can theoretically occur in marine mammals exposed to high level underwater sound or as a secondary effect of extreme behavioral reactions (*e.g.*, change in dive profile as a result of an avoidance reaction) caused by exposure to sound. These include neurological effects, resonance effects, and other types of organ or tissue damage (Cox *et al.*, 2006; Southall *et al.*, 2007; Zimmer and Tyack, 2007). The bubble formation, or rectified diffusion, referenced by Green Oceans is another such effect (*e.g.*, Houser *et al.*, 2001; Tal *et al.*, 2015). However, the survey activities considered here do not involve the use of devices such as explosives or mid-frequency tactical sonar that produce the high-intensity sounds that are associated with these types of effects. While these bubble formation

effects remain a theoretical potential cause of marine mammal stranding, it is important to note that theoretical analysis of this potential considers as necessary precedent the condition of deep diving and slow ascent/descent speed, which contributes to increased gas-tissue saturation, prior to high-intensity sound exposure. The survey conditions here, aside from the absence of the high-intensity sound that would be expected to be necessary to cause this effect, preclude the deep diving conditions in which gas supersaturation and the potential for bubble growth might occur—as noted previously, the maximum survey depth is 38 meter (m). Houser *et al.* (2001) emphasize the importance of dive depth to the rectified diffusion concept in marine mammals, stating that beaked whales and sperm whales (species not expected to be impacted by the proposed survey) may be at greatest risk, with other odontocete species at lesser potential risk. Green Oceans focused its concern on "whales," which we presume to mean mysticete species, which would be at even lower risk due to typically shallow dive patterns. In summary, the concern raised by Green Oceans regarding potential injury resulting from rectified diffusion is unwarranted due to the shallow survey depths, which preclude the gas-tissue saturation conditions necessary to potentially lead to bubble formation, and the lack of high-intensity sounds necessary to cause bubble expansion.

Description of Marine Mammals

A description of the marine mammals in the area of the activities can be found in the previous documents and notices for the 2022 IHA (87 FR 38067, June 27, 2022; 87 FR 50293, August 16, 2022), which remain applicable to this IHA. NMFS reviewed the most recent draft Stock Assessment Reports (SARs, found on NMFS' website at *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments*), up-to-date information on relevant Unusual Mortality Events (UMEs; *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-unusual-mortality-events*), and recent scientific literature and determined that no new

information affects our original analysis of impacts under the 2022 IHA. More general information about these species (*e.g.,* physical and behavioral descriptions) may be found on NMFS's website (*https://www.fisheries.noaa.gov/find-species*).

NMFS notes that, since issuance of the 2022 IHA, a new SAR is available for the NARW. We note that the estimated abundance for the species declined from 368 to 338. However, this change does not affect our analysis of impacts, as described under the 2022 IHA.

Marine Mammal Hearing

Hearing is the most important sensory modality for marine mammals underwater, and exposure to anthropogenic sound can have deleterious effects. To appropriately assess the potential effects of exposure to sound, it is necessary to understand the frequency ranges marine mammals are able to hear. Current data indicate that not all marine mammal species have equal hearing capabilities (*e.g.,* Richardson *et al.,* 1995; Wartzok and Ketten, 1999; Au and Hastings, 2008). To reflect this, Southall *et al.* (2007) recommended that marine mammals be divided into functional hearing groups based on directly measured or estimated hearing ranges on the basis of available behavioral response data, audiograms derived using auditory evoked potential techniques, anatomical modeling, and other data. Note that no direct measurements of hearing ability have been successfully completed for mysticetes (*i.e.,* low-frequency cetaceans). Subsequently, NMFS (2018) described generalized hearing ranges for these marine mammal hearing groups. Generalized hearing ranges were chosen based on the approximately 65 dB threshold from the normalized composite audiograms, with the exception for lower limits for low-frequency cetaceans where the lower bound was deemed to be biologically implausible and the lower bound from Southall *et al.* (2007) retained. Marine mammal hearing groups and their associated hearing ranges are provided in Table 1.

Table 1 -- Marine Mammal Hearing Groups (NMFS, 2018)

Hearing Group	Generalized Hearing Range*
Low-frequency (LF) cetaceans (baleen whales)	7 Hz to 35 kHz
Mid-frequency (MF) cetaceans (dolphins, toothed whales, beaked whales, bottlenose whales)	150 Hz to 160 kHz
High-frequency (HF) cetaceans (true porpoises, *Kogia*, river dolphins, Cephalorhynchid, *Lagenorhynchus cruciger* & *L. australis*)	275 Hz to 160 kHz
Phocid pinnipeds (PW) (underwater) (true seals)	50 Hz to 86 kHz
Otariid pinnipeds (OW) (underwater) (sea lions and fur seals)	60 Hz to 39 kHz
* Represents the generalized hearing range for the entire group as a composite (*i.e.*, all species within the group), where individual species' hearing ranges are typically not as broad. Generalized hearing range chosen based on ~65 dB threshold from normalized composite audiogram, with the exception for lower limits for LF cetaceans (Southall *et al*., 2007) and PW pinniped (approximation).	

The pinniped functional hearing group was modified from Southall *et al.* (2007) on the basis of data indicating that phocid species have consistently demonstrated an extended frequency range of hearing compared to otariids, especially in the higher frequency range (Hemilä *et al.,* 2006; Kastelein *et al.,* 2009; Reichmuth and Holt, 2013). For more detail concerning these groups and associated frequency ranges, please see NMFS (2018) for a review of available information.

Potential Effects on Marine Mammals and Their Habitat

A description of the potential effects of the specified activities on marine mammals and their habitat may be found in the documents supporting the 2022 IHA (87 FR 38067, June 27, 2022; 87 FR 50293, August 16, 2022). NMFS has determined that there is no new information on potential effects that would impact our analysis.

Estimated Take

A detailed description of the methods used to estimate take anticipated to occur incidental to the project is found in the previous **Federal Register** notices (87 FR 38067, June 27, 2022; 87 FR 50293, August 16, 2022). The methods of estimating take are identical to those used in the 2022 IHA. Atlantic Shores updated the marine mammal densities based on new information (Roberts *et al.,* 2016; Roberts *et al.,* 2023), available

online at: *https://seamap.env.duke.edu/models/Duke/EC/.* We refer the reader to Table 6 in Atlantic Shores' 2023 IHA request for specific density values used in the analysis. The IHA request is available online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-other-energy-activities-renewable.*

The take that NMFS has authorized can be found in Table 2, which presents the results of Atlantic Shores' density-based calculations for the survey area. For comparative purposes, we have provided the 2022 IHA authorized take (87 FR 50293, August 16, 2022). NMFS notes that take by Level A harassment was not requested nor does NMFS anticipate that it could occur. Therefore, NMFS has not authorized any take by Level A harassment. Mortality or serious injury is neither anticipated to occur nor authorized.

Table 2 -- Total Authorized Take, by Level B Harassment Only, Relative to Population Size

Species	Scientific Name	Stock	Abundance	2022 IHA Authorized Take	2023 IHA	
					Authorized Take [1]	Max Percent Population
North Atlantic right whale	*Eubalaena glacialis*	Western Atlantic	338	24	5	1.5
Humpback whale	*Megaptera novaeangliae*	Gulf of Maine	1,396	8	8 (16) [6]	1.2
Fin whale	*Balaenoptera physalus*	Western North Atlantic	6,802	16	9	<1
Sei whale [2]	*Balaenoptera borealis*	Nova Scotia	6,292	2	4	<1
Minke whale	*Balaenoptera acutorostrata*	Canadian East Coastal	21,968	8	46	<1
Sperm whale [2]	*Physeter macrocephalus*	Western Atlantic	4,349	3	2	<1
Long-finned pilot whale [3]	*Globicephala melas*	Western North Atlantic	39,215	20	8 (20)	<1
Bottlenose dolphin	*Tursiops truncatus*	Western North Atlantic	62,851	232	179	<1

		Offshore Stock				
Common dolphin	*Delphinus delphis*	Western North Atlantic	172,974	911	588	<1
Atlantic white-sided dolphin	*Lagenorhynchus acutus*	Western North Atlantic	93,233	108	63	<1
Atlantic spotted dolphin	*Stenella frontalis*	Western North Atlantic	39,921	100	42 (100)	<1
Risso's dolphin	*Grampus griseus*	Western North Atlantic	35,215	30	7 (30)	<1
Harbor porpoise	*Phocoena phocoena*	Gulf of Maine/Bay of Fundy	95,543	357	281	<1
Harbor seal [4]	*Phoca vitulina*	Western North Atlantic	61,336	263	374	<1
Gray seal [4, 5]	*Halichoerus grypus*	Western North Atlantic	27,300	263	374	1.37

[1] Parentheses denote take authorization where different from calculated take estimates. Increases from calculated values are based on average group size for the following species: humpback whale, King *et al.*, 2021; long-finned pilot whale and Risso's dolphin, NOAA, 2022; and Atlantic spotted dolphin, Jefferson *et al.,* 2008.
[2] Where calculated takes for a species in a given survey area were less than 1 individual, the number was rounded up to 1 take in each survey area.
[3] Roberts *et al.* (2023) only provides density estimates for pilot whales as a guild. Given the project's location, NMFS assumes that all take will be of long-finned pilot whales.
[4] Roberts *et al.* (2023) only provides density estimates for seals without differentiating by species. Harbor seals and gray seals are assumed to occur equally in the survey area; therefore, density values were split evenly between the 2 species, *i.e.*, total estimated take for "seals" is 748.
[5] NMFS' stock abundance estimate (and associated PBR value) applies to U.S. population only. Total stock abundance (including animals in Canada) is approximately 451,600.
[6] According to recent findings that humpback whales were the most commonly sighted species in the New York Bight (King *et al.,* 2021), the number of modeled exposures (4) for each of the lease area and ECR is multiplied by an average whale size of two for a total of eight estimated takes in the lease area and eight estimated takes in the ECR. The total request (16) represents the sum of estimated take in the lease area (8) and ECR (8).

Description of Mitigation, Monitoring and Reporting Measures

The required mitigation, monitoring, and reporting measures are identical to those included in the **Federal Register** notice announcing the final 2022 IHA and the discussion of the least practicable adverse impact included in that document remains accurate. The measures are found below.

Atlantic Shores must also abide by all the marine mammal relevant conditions in the NOAA Fisheries GARFO programmatic consultation (specifically Project Design

Criteria (PDC) 4, 5, and 7) regarding geophysical surveys along the U.S. Atlantic coast in the three Atlantic Renewable Energy Regions (NOAA GARFO, 2021; *https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-take-reporting-programmatics-greater-atlantic#offshore-wind-site-assessment-and-site-characterization-activities-programmatic-consultation*), pursuant to Section 7 of the Endangered Species Act.

Additionally, on August 1, 2022, NMFS announced proposed changes to the existing NARW vessel speed regulations to further reduce the likelihood of mortalities and serious injuries to endangered NARWs from vessel collisions, which are a leading cause of the species' decline and a primary factor in an ongoing Unusual Mortality Event (87 FR 46921, August 1, 2023). Should a final vessel speed rule be issued and become effective during the effective period of this IHA (or any other MMPA incidental take authorization), the authorization holder would be required to comply with any and all applicable requirements contained within the final rule. Specifically, where measures in any final vessel speed rule are more protective or restrictive than those in this or any other MMPA authorization, authorization holders would be required to comply with the requirements of the rule. Alternatively, where measures in this or any other MMPA authorization are more restrictive or protective than those in any final vessel speed rule, the measures in the MMPA authorization would remain in place. The responsibility to comply with the applicable requirements of any vessel speed rule would become effective immediately upon the effective date of any final vessel speed rule and, when notice is published of the effective date, NMFS would also notify Atlantic Shores if the measures in the speed rule were to supersede any of the measures in the MMPA authorization such that they were no longer applicable.

Establishment of Shutdown Zones (SZ) -- Marine mammal SZs must be established around the HRG survey equipment and monitored by NMFS-approved PSOs as follows:

- 500-m SZ for NARWs during use of specified acoustic sources (impulsive: Sparkers; non-impulsive: Non-parametric sub-bottom profilers); and,
- 100-m SZ for all other marine mammals (excluding NARWs) during use of specified acoustic sources (except as specified below). The only exception for this is for pinnipeds (seals) and small delphinids (*i.e.*, those from the genera *Delphinus*, *Lagenorhynchus*, *Stenella* or *Tursiops*).

If a marine mammal is detected approaching or entering the SZs during the HRG survey, the vessel operator will adhere to the shutdown procedures described below to minimize noise impacts on the animals. During use of acoustic sources with the potential to result in marine mammal harassment (sparkers and non-parametric sub-bottom profilers; *i.e.*, anytime the acoustic source is active, including ramp-up), occurrences of marine mammals within the monitoring zone (but outside the SZs) must be communicated to the vessel operator to prepare for potential shutdown of the acoustic source.

Visual Monitoring -- Monitoring must be conducted by qualified PSOs who are trained biologists, with minimum qualifications described in the **Federal Register** notices for the 2022 project (87 FR 38067, June 27, 2022; 87 FR 50293, August 16, 2022). Atlantic Shores must have one PSO on duty during the day and a minimum of two NMFS-approved PSOs must be on duty and conducting visual observations when HRG equipment is in use at night. Visual monitoring must begin no less than 30 minutes prior to ramp-up of HRG equipment and continue until 30 minutes after use of the acoustic source. PSOs must establish and monitor the applicable clearance zones, SZs, and vessel separation distances as described in the 2022 IHA (87 FR 38067, June 27, 2022; 87 FR

50293, August 16, 2022). PSOs must coordinate to ensure 360-degree visual coverage around the vessel from the most appropriate observation posts, and must conduct observations while free from distractions and in a consistent, systematic, and diligent manner. PSOs are required to estimate distances to observed marine mammals. It is the responsibility of the Lead PSO on duty to communicate the presence of marine mammals as well as to communicate action(s) that are necessary to ensure mitigation and monitoring requirements are implemented as appropriate.

Pre-Start Clearance—Marine mammal CZs will be established around the HRG survey equipment and monitored by NMFS-approved PSOs prior to use of sparkers and non-parametric sub-bottom profilers as follows:

- 500-m CZ for all ESA-listed species; and,
- 100-m CZ for all other marine mammals.

Prior to initiating HRG survey activities, Atlantic Shores will implement a 30-minute pre-start clearance period. The operator must notify a designated PSO of the planned start of ramp-up where the notification time should not be less than 60 minutes prior to the planned ramp-up to allow the PSOs to monitor the CZs for 30 minutes prior to the initiation of ramp-up. Prior to ramp-up beginning, Atlantic Shores will receive confirmation from the PSO that the CZs are clear prior to preceding. Any PSO on duty has the authority to delay the start of survey operations if a marine mammal is detected within the applicable pre-start clearance zones.

During this 30-minute period, the entire CZ must be visible. The exception to this would be in situations where ramp-up must occur during periods of poor visibility (inclusive of nighttime) as long as appropriate visual monitoring has occurred with no detections of marine mammals in 30 minutes prior to the beginning of ramp-up. Acoustic source activation must only occur at night where operational planning cannot reasonably avoid such circumstances.

If a marine mammal is observed within the relevant CZs during the pre-start clearance period, initiation of HRG survey equipment must not begin until the animal(s) has been observed exiting the respective clearance zone, or until an additional period has elapsed with no further sighting (*i.e.,* minimum 15 minutes for small odontocetes and seals; 30 minutes for all other species). The pre-start clearance requirement includes small delphinids. PSOs must also continue to monitor the zone for 30 minutes after survey equipment is shut down or survey activity has concluded.

Ramp-Up of Survey Equipment—When technically feasible, a ramp-up procedure must be used for geophysical survey equipment capable of adjusting energy levels at the start or re-start of survey activities. The ramp-up procedure must be used at the beginning of HRG survey activities in order to provide additional protection to marine mammals near the project area by allowing them to detect the presence of the survey and vacate the area prior to the commencement of survey equipment operation at full power. Ramp-up of the survey equipment must not begin until the relevant SZs have been cleared by the PSOs, as described above. HRG equipment operators must ramp up acoustic sources to half power for 5 minutes and then proceed to full power. If any marine mammals are detected within the SZs prior to or during ramp-up, the HRG equipment must be shut down (as described below).

Shutdown Procedures—If an HRG source is active and a marine mammal is observed within or entering a relevant SZ (as described above), an immediate shutdown of the HRG survey equipment is required. When shutdown is called for by a PSO, the acoustic source must be immediately deactivated and any dispute resolved only following deactivation. Any PSO on duty has the authority to delay the start of survey operations or to call for shutdown of the acoustic source if a marine mammal is detected within the applicable SZ. The vessel operator must establish and maintain clear lines of communication directly between PSOs on duty and crew controlling the HRG source(s)

to ensure that shutdown commands are conveyed swiftly while allowing PSOs to maintain watch. Subsequent restart of the HRG equipment may only occur after the marine mammal has been observed exiting the relevant SZ, or, until an additional period has elapsed with no further sighting of the animal within the relevant SZ.

Upon implementation of shutdown, the HRG source may be reactivated after the marine mammal that triggered the shutdown has been observed exiting the applicable SZ or following a clearance period of 15 minutes for small odontocetes and seals and 30 minutes for all other species with no further observation of the marine mammal(s) within the relevant SZ. If the HRG equipment is shut down for brief periods (*i.e.,* less than 30 minutes) for reasons other than mitigation (*e.g.,* mechanical or electronic failure), the equipment may be re-activated as soon as is practicable at full operational level, without 30 minutes of pre-clearance, only if PSOs have maintained constant visual observation during the shutdown and no visual detections of marine mammals occurred within the applicable SZs during that time. For a shutdown of 30 minutes or longer, or if visual observation was not continued diligently during the pause, pre-clearance observation is required, as described above. The acoustic source(s) must be deactivated when not acquiring data or preparing to acquire data, except as necessary for testing. Unnecessary use of the acoustic source shall be avoided.

The shutdown requirement is waived for pinnipeds (seals) and certain genera of small delphinids (*i.e., Delphinus, Lagenorhynchus, Stenella,* or *Tursiops*) under certain circumstances. If a delphinid(s) from these genera is visually detected within the SZ, shutdown would not be required. If there is uncertainty regarding identification of a marine mammal species (*i.e.,* whether the observed marine mammal(s) belongs to one of the delphinid genera for which shutdown is waived), PSOs must use best professional judgment in making the decision to call for a shutdown.

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 have been met, approaches or is observed within the area encompassing the Level B harassment isopleth (141 m), shutdown must occur.

Vessel Strike Avoidance—Atlantic Shores must comply with vessel strike avoidance measures as described in the **Federal Register** notice for the 2022 IHA (87 FR 50293, August 16, 2022). This includes speed restrictions (10 kn (18.5 km/hour) or less) when mother/calf pairs, pods, or large assemblages of cetaceans are spotted near a vessel; species-specific vessel separation distances; appropriate vessel actions when a marine mammal is sighted (*e.g.*, avoid excessive speed, remain parallel to animal's course, *etc*.); and monitoring of the NMFS NARW reporting system and WhaleAlert daily.

Throughout all phases of the survey activities, Atlantic Shores must monitor NOAA Fisheries NARW reporting systems for the establishment of a DMA. If NMFS establishes a DMA in the surrounding area, including the project area or export cable routes being surveyed, Atlantic Shores is required to abide by the 10-kn (18.5 km/hour) speed restriction.

Seasonal Operating Requirements—Atlantic Shores will conduct HRG survey activities in the vicinity of a NARW Mid-Atlantic SMA. Activities must comply with the seasonal mandatory speed restriction period for this SMA (November 1 through April 30) for any survey work or transit within this area.

Training—Project-specific training is required for all vessel crew prior to the start of survey activities.

Reporting—PSOs must record specific information as described in the **Federal Register** notice of the issuance of the 2022 IHA (87 FR 50293, August 16, 2022). Within 90 days after completion of survey activities, Atlantic Shores must provide NMFS with a monitoring report, which must include summaries of recorded takes and estimates of the

number of marine mammals that may have been harassed.

In the event of a ship strike or discovery of an injured or dead marine mammal, Atlantic Shores must report the incident to the Office of Protected Resources (OPR), NMFS and to the New England/Mid-Atlantic Regional Stranding Coordinator as soon as feasible. The report must include the information listed in the **Federal Register** notice of the issuance of the initial IHA (87 FR 50293, August 16, 2022).

Determinations

Atlantic Shores' HRG survey activities are unchanged from those analyzed in support of the 2022 IHA. The effects of the activity, taking into consideration the mitigation and related monitoring measures, remain unchanged from those evaluated in support of the 2022 IHA, regardless of the minor increases in estimated take for two marine mammal species (humpback whale and minke whale). NMFS expects that all potential takes would be short-term Level B behavioral harassment in the form of temporary avoidance of the area or decreased foraging (if such activity was occurring), reactions that are considered to be of low severity and with no lasting biological consequences (*e.g.*, Southall *et al.*, 2007). In addition to being temporary, the maximum expected harassment zone around a survey vessel is 141 m from use of the AA Dura-spark sparker. Although this distance is assumed for all survey activity evaluated here and in estimating authorized take numbers, in reality, much of the survey activity would involve use of non-impulsive acoustic sources with a reduced acoustic harassment zone of up to 56 m, producing expected effects of particularly low severity. The ensonified area surrounding each vessel is extremely small compared to the overall distribution of the animals in the area and the available habitat.

Feeding behavior is not likely to be significantly impacted as prey species are mobile and are broadly distributed throughout the survey area; therefore, marine mammals that may be temporarily displaced during survey activities are expected to be

able to resume foraging once they have moved away from areas with disturbing levels of underwater noise. Because of the temporary nature of the disturbance and the availability of similar habitat and resources in the surrounding area, the impacts to marine mammals and the food sources that they utilize are not expected to cause significant or long-term consequences for individual marine mammals or their populations. Even considering the increased estimated take for some species, the impacts of these lower severity exposures are not expected to accrue to a degree that the fitness of any individuals would be impacted and, therefore, no impacts on the annual rates of recruitment or survival would result.

As previously discussed in the 2022 IHA (87 FR 50293, August 16, 2022), impacts from the survey are expected to be localized to the specific area of activity and only during periods when Atlantic Shores' acoustic sources are active. There are no rookeries, mating or calving grounds, or any feeding areas known to be biologically important to marine mammals within the survey area. There is no designated critical habitat for any marine mammals listed under the ESA in the survey area.

As noted for the 2022 IHA (87 FR 50293, August 16, 2022), the survey area overlaps a migratory corridor BIA and migratory route SMA (Port of New Jersey/New York) for NARWs. As the survey activities would be temporary and the spatial acoustic footprint produced by the survey would be very small relative to the spatial extent of the available migratory habitat in the BIA (269,448 km^2), NMFS does not expect NARW migration to be impacted by the survey. Required vessel strike avoidance measures would also decrease risk of ship strike during migration; no ship strike is expected to occur during Atlantic Shores' activities. Atlantic Shores would be required to comply with seasonal speed restrictions of these SMAs, and in any DMA, should NMFS establish one (or more) in the survey area. Additionally, Atlantic Shores requested, and NMFS has authorized, only five takes by Level B harassment of NARWs. This amount is less than

the 24 Level B harassment takes authorized in the 2022 IHA due to the updated Duke University density data (Roberts *et al.,* 2023).

Although take by Level B harassment of NARWs has been authorized by NMFS, we anticipate such take may not actually occur, and should it occur, we anticipate a very low level of harassment because Atlantic Shores is required to maintain a shutdown zone of 500 m if a NARW is observed. The authorized takes account for any missed animals wherein the survey equipment is not shut down immediately. As shutdown would be called for immediately upon detection (if the whale is within 500 m), it is likely the exposure time would be very limited and received levels would not be much above the harassment threshold. Further, the 500-m SZ for NARWs is conservative, considering the Level B harassment isopleth for the most impactful acoustic source (*i.e.*, AA Dura-spark sparker) is estimated to be 141 m, and thereby minimizes the potential for behavioral harassment of this species. As noted previously, Level A harassment is not expected due to the small PTS zones associated with HRG equipment types planned for use. NMFS does not anticipate NARW takes that would result from Atlantic Shores' activities would impact annual rates of recruitment or survival. Thus, any takes that occur would not result in population level impacts.

We also note that our findings for other species with active UMEs that were previously described for the 2022 IHA remain applicable to this project. Therefore, in conclusion, there is no new information suggesting that our analysis or findings should change.

Based on the information contained here and in the referenced documents, NMFS has determined the following: (1) the required mitigation measures would effect the least practicable impact on marine mammal species or stocks and their habitat; (2) the authorized takes would have a negligible impact on the affected marine mammal species or stocks; (3) the authorized takes represent small numbers of marine mammals relative

to the affected stock abundances; (4) Atlantic Shores' activities would not have an unmitigable adverse impact on taking for subsistence purposes as no relevant subsistence uses of marine mammals are implicated by this action; and (5) appropriate monitoring and reporting requirements are included.

Endangered Species Act

Section 7(a)(2) of the Endangered Species Act of 1973 (ESA; 16 U.S.C. 1531 *et seq.*) requires that each Federal agency insure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA compliance for the issuance of IHAs, NMFS consults internally whenever we propose to authorize take for endangered or threatened species.

NMFS has authorized the incidental take of four species of marine mammals which are listed under the ESA, the North Atlantic right, fin, sei, and sperm whale, and has determined that this activity falls within the scope of activities analyzed in NMFS Greater Atlantic Regional Fisheries Office's programmatic consultation regarding geophysical surveys along the U.S. Atlantic coast in the three Atlantic Renewable Energy Regions (completed June 29, 2021; revised September 2021).

National Environmental Policy Act

To comply with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq*.) and NOAA Administrative Order (NAO) 216-6A, NMFS must review our proposed action (*i.e*., the issuance of an IHA) with respect to potential impacts on the human environment. This action is consistent with categories of activities identified in Categorical Exclusion B4 (IHAs with no anticipated serious injury or mortality) of the Companion Manual for NOAA Administrative Order 216-6A, which do not individually or cumulatively have the potential for significant impacts on the quality of the human environment and for which we have not identified any extraordinary

circumstances that would preclude this categorical exclusion. Accordingly, NMFS has determined that the issuance of the IHA qualifies to be categorically excluded from further NEPA review.

Authorization

NMFS has issued an IHA to Atlantic Shores for the potential harassment of small numbers of 15 marine mammal species incidental to marine site characterization surveys offshore of New Jersey and New York, provided the previously mentioned mitigation, monitoring, and reporting requirements are followed.

Dated: August 8, 2023.

Kimberly Damon-Randall,

Director, Office of Protected Resources,

National Marine Fisheries Service.

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