Guadalquivir S.L. (AG). Specifically, Commerce listed AG's estimated weighted-average dumping margin as 17.45 percent and AG's cash deposit rate as 17.46 percent.

Correction

Commerce has corrected AG's weighted-average antidumping duty margin percentage to 17.46 percent and AG's cash deposit rate to 17.45 percent. The weighted-average antidumping duty margin percentages and cash deposit rates remain unchanged from the *Antidumping Duty Order* for all other companies. The weighted-average antidumping duty margin percentages and cash deposit rates are as follows:

Exporter/producer	Estimated weighted-average dumping margin (percent)	Cash deposit rate (percent) [2]
Aceitunas Guadalquivir S.L	17.46	17.45
Agro Sevilla Aceitunas S.COOP Andalusia	25.50	25.39
Angel Camacho Alimentacion S.L	16.88	16.83
All-Others	20.04	19.98

[2] The cash deposit rate is equal to the calculated estimated weighted-average dumping margin adjusted for the appropriate subsidy offset(s).

This correction to the *Antidumping Duty Order* is published in accordance with section 736(a) of the Tariff Act of 1930, as amended.

Dated: August 7, 2018.

James Maeder,

Associate Deputy Assistant Secretary for Antidumping and Countervailing Duty Operations performing the duties of Deputy Assistant Secretary for Antidumping and Countervailing Duty Operations.

[FR Doc. 2018–17202 Filed 8–9–18; 8:45 am]

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XG170

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to a Marine Geophysical Survey in the Northwest Atlantic Ocean

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 USGS to incidentally harass, by Level B harassment only, marine mammals during geophysical survey activities associated with a the USGS's Mid-Atlantic Resource Imaging Experiment (MATRIX) survey project in the Northwest Atlantic Ocean.

DATES: This Authorization is effective from August 1, 2018 to July 31, 2019.

FOR FURTHER INFORMATION CONTACT: Jonathan Molineaux, Office of Protected Resources, NMFS, (301) 427–8401. Electronic copies of the application and supporting documents, 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-research-and-other-activities*. In case of problems accessing these documents, please call the contact listed above.

SUPPLEMENTARY INFORMATION:

Background

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 authorization is provided to the public for review.

An authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth.

NMFS has defined ''negligible impact'' in 50 CFR 216.103 as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.''

The MMPA states that the term ''take'' means to harass, hunt, capture, kill or attempt to harass, hunt, capture, or kill any marine mammal.

Except with respect to certain activities not pertinent here, the MMPA defines ''harassment'' as: Any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Summary of Request

On March 20, 2018, NMFS received a request from USGS for an IHA to take marine mammals incidental to a marine geophysical survey in the northwest Atlantic Ocean. On April 11, 2018, we deemed USGS's application for authorization to be adequate and complete. USGS requests to take small numbers of 29 species of marine mammals by Level B harassment only during the survey. Neither USGS nor NMFS expects serious injury or mortality to result from this activity; and, therefore, an IHA is appropriate.

Description of Activity

The USGS will conduct a seismic survey aboard the *R/V Hugh R. Sharp,* a University National Oceanographic Laboratory (UNOLS) Federal fleet vessel that is owned and operated by the University of Delaware, during a cruise up to 22 days long on the northern U.S. Atlantic margin in August 2018. The seismic survey will take place in water depths ranging from ~100 meters (m) to 3,500 m, entirely within the U.S.

Exclusive Economic Zone (EEZ), and acquire ~6 dip lines (roughly perpendicular to the orientation of the shelf-break) and ~3 strike lines (roughly parallel to the shelf-break) between about 35 nautical miles (nmi) south of Hudson Canyon on the north and Cape Hatteras on the south. In addition, multichannel seismic (MCS) data will be acquired along some linking/transit/interseismic lines between the main survey lines. Total data acquisition could be up to ~2,400 kilometers (km) of trackline.

The purpose of the MATRIX survey is to collect data to constrain the lateral and vertical distribution of gas hydrates and shallow natural gas in marine sediments relative to seafloor gas seeps, slope failures, and geological and erosional features.

The seismic survey's airgun operations are scheduled to occur for up to 19 days during a cruise that may be as long as 22 days, departing port on August 8, 2018. Some minor deviation from these dates is possible, depending on logistics and weather.

The survey will involve only one source vessel, the *R/V Hugh R. Sharp*. The source vessel will deploy two to four low-energy Generator-Injector (GI) airguns (each with a discharge volume of 105 cubic inches (in^3)) as an energy source. The GI guns could sometimes be fired in a mode that gives them a discharge volume of 210 in^3 each, but only at water depths greater than 1000 m (See description of Optimal Survey below for more details).

The Optimal Survey (GG mode) (See Table 1) for the Proposed Action would acquire the portion of the solid lines in Figure 1 of the IHA application at water depths greater than 1000 m using the GI-guns in ''GG'' mode. In this mode, the four GI guns would produce a total of 840 in^3 of air and sonobuoys would be deployed to passively record data at long distances. When shooting to sonobuoys while in GG mode, the GI guns will be operated with both chambers releasing air simultaneously (*i.e.,* ''generator-generator'' or ''GG'' mode). The rest of the survey, including the portion shallower than 1000 m water depth on the uppermost slope and the interseismic linking lines (dashed lines in Figure 1), would be acquired with four GI guns operated in normal mode (also called GI mode), producing a total of 420 in^3 of air.

The Base Survey (GI mode) (See Table 1) assumes that all of the solid lines in Figure 1, as well as all of the interseismic connecting lines, would be acquired using four GI guns operating in normal mode (GI mode), producing a total air volume of 420 in^3. Only a maximum of half of the interseismic linking lines (dashed lines in Figure 1) would be acquired. These lines are longer and geometrically more complex at the deepwater side than near the shelf-break.

TABLE 1—GENERAL CHARACTERISTICS OF EXEMPLARY SURVEY SCENARIOS FOR THE PROPOSED ACTION

	GI mode (4×105 in^3)		GG mode (4×210 in^3)	
	Depth and line type	Track line distance (km)	Depth and line type	Track line distance
Optimal Survey ..	100–1,000 m water depth on exemplary lines *and* 50% of interseismic, linking lines.	~750	Greater than 1,000 m on exemplary lines ...	~1,600
Base Survey	Exemplary lines plus 50% of interseismic, linking lines.	2,350	.....	.....

During the cruise, the USGS would continuously use an echosounder (EK60/EK80) with 38 kHz transducer at water depths less than ~1,800 m to locate water column anomalies associated with seafloor seeps emitting gas bubbles. The 38 kHz transducer would be mounted in the *R/V Sharp's* retractable keel and would typically ping 0.5 to 2 Hz with pings of 0.256 to 1.024 millisecond (m/s) duration. The returned signals would be detected on an EK60 or EK80 (broadband) transceiver. Based on past USGS experience with this instrument, it is unlikely to acquire useful data at water depths greater than 1,800 m, although it could be used in passive mode at these depths to record broadband ambient signals in the water column.

A more detailed description of USGS's MATRIX survey is provided in the **Federal Register** notice for the proposed IHA (83 FR 25268; May 31, 2018). Since that time, no changes have been made to the planned survey activities. Therefore, a detailed description is not provided here. Please refer to that **Federal Register** notice for the description of the specific activity.

Comments and Responses

NMFS published a notice of proposed IHA in the **Federal Register** on May 31, 2018 (83 FR 25268). During the 30-day public comment period, NMFS received a comment letter from the Marine Mammal Commission (Commission). NMFS has posted the comments online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-research-and-other-activities*. The following is a summary of the public comments and NMFS' responses.

Comment 1: After review of the **Federal Register** notice of the proposed IHA (83 FR 25268; May 31, 2018) and IHA application for the USGS MATRIX survey, the Commission inferred that the modeling used by USGS (Lamont-Doherty Earth Observatory (LDEO)'s Nucleus Model) to predict Level A and Level B harassment zones applied radial distances (*i.e.,* slant ranges) and radii indiscriminately. The Commission states that radial distances were used for metrics based on SEL_{cum} and SPL root-mean-square (SPL_{rms}), and radii were used for metrics based on SPL_{peak}, which would yield smaller zones. As a result, the Commission recommends that NMFS require USGS to specify why LDEO's Nucleus Model is using radial distances for sound exposure level (SEL_{cum}) and sound pressure level (SPL_{rms}) metrics and radii for peak sound pressure (SPL_{peak}) metrics.

Response: NMFS appreciates the Commission's request for USGS to explain the specific methodology LDEO's Nucleus Model uses to determine harassment zones. After consulting with LDEO, USGS has clarified that two different methods for estimating distance are not being used. In order to calculate harassment zones, LDEO uses the maximum radial distance at depth which it vertically projects from that radial distance back to the surface. This provides a horizontal radius from the source.

Comment 2: The Commission recommends NMFS provide

justification for why it believes that LDEO's use of the Nucleus source model, which does not provide data above 2.5 kHz, is appropriate for determining the extents of the Level A harassment zones for mid-frequency and high-frequency cetaceans.

Response: Few broadband calibration studies are available to support the modeling of airgun spectra above 3 kHz (*e.g.,* Tolstoy et al. 2004; Breitzke et al. 2008; Tolstoy et al. 2009). Measurements available indicate that most of the sound produced by airguns is below 1 kHz (*i.e.,* spectral levels drop off continuously above 1 kHz).

Despite JASCO's AASM model predicting acoustic signatures of seismic airgun arrays up to 25 kHz, often their transmission loss calculations do not directly use these data to account for frequencies above 5 kHz because it is computationally intensive (Zeddies et al. 2015). While NMFS agrees that the spectral levels above 3 kHz should not necessarily be assumed zero, better data are needed to evaluate if and how airguns at these frequencies are significantly contributing to noise-induced hearing loss for these two marine mammal hearing groups.

For both MF and HF cetaceans, the TTS onset impulsive thresholds NMFS currently relies upon are derived directly from individual exposed to seismic sources (Finneran et al. 2002; Lucke et al. 2009). A more recent TTS study on harbor porpoises exposed to multiple airgun shots further supports the current TTS onset thresholds used to evaluate impulsive sources (Kastelein et al. 2017).

The available TTS onset data do not indicate that airguns are contributing significantly to noise-induced hearing loss at higher frequencies in these two hearing groups. Specifically, Lucke et al. (2009) measured harbor porpoise hearing at 4, 32, and 100 kHz after exposure to a single airgun shot, with TTS onset only occurring at 4 kHz. Similarly, Kastelein et al. (2017) measured a ~4.4 dB threshold shift only at 4 kHz, with hearing tested up to 8 kHz, for a harbor porpoise exposed to multiple airgun shots. Finally, Finneran et al. (2015) exposed bottlenose dolphins to multiple airgun shots and measured hearing thresholds up to 64 kHz, without measurable TTS onset observed. All these studies had measurements demonstrating spectral levels above 3 kHz for their airgun sources. For these reasons, NMFS believes that LDEO's use of the Nucleus source model is appropriate. NMFS appreciates the Commission's interest in this matter and will continue to evaluate the available information regarding spectral levels of airgun signals above 3 kHz.

Comment 3. The Commission recommends that NMFS require USGS, in collaboration with LDEO, to re-estimate the proposed Level A and B harassment zones and associated takes of marine mammals using (1) both operational (including number/type/spacing of airguns, tow depth, source level/operating pressure, operational volume) and site-specific environmental (including sound speed profiles, bathymetry, and sediment characteristics at a minimum) parameters, (2) a comprehensive source model (*e.g.,* Gundalf Optimizer or AASM) and (3) an appropriate sound propagation model. Specifically, the Commission reiterates its belief that LDEO should be using the ray-tracing sound propagation model BELLHOP rather than the MATLAB code currently in use.

Response: USGS's application (USGS, 2018) and the **Federal Register** notice of the proposed IHA (83 FR 25268; May 31, 2018) describe the applicant's approach to modeling Level A and Level B harassment zones. The model LDEO currently uses does not allow for the consideration of site-specific environmental parameters as recommended by the Commission.

In summary, LDEO acquired field measurements for several array configurations at shallow, intermediate, and deep-water depths during acoustic verification studies conducted in the northern Gulf of Mexico (Tolstoy *et al.,* 2009). Based on the empirical data from those studies, LDEO developed a sound propagation modeling approach that predicts received sound levels as a function of distance from a particular airgun array configuration in deep water. For this survey, LDEO modeled Level A and Level B harassment zones based on the empirically-derived measurements from the Gulf of Mexico calibration survey (Appendix H of NSF–USGS 2011). LDEO used the deep-water radii obtained from model results down to a maximum water depth of 2,000 m (Figure 2 and 3 in Appendix H of NSF–USGS 2011).

In 2015, LDEO explored the question of whether the Gulf of Mexico calibration data described above adequately informs the model to predict harassment isopleths in other areas by conducting a retrospective sound power analysis of one of the lines acquired during LDEO's seismic survey offshore New Jersey in 2014 (Crone, 2015). NMFS presented a comparison of the predicted radii (*i.e.,* modeled exclusion zones) with radii based on in situ measurements (*i.e.,* the upper bound [95th percentile] of the cross-line prediction) in a previous notice of an IHA issued for LDEO (see 80 FR 27635, May 14, 2015, Table 1). Briefly, the analysis presented in Crone (2015), specific to the survey site offshore New Jersey, confirmed that in-situ, site-specific measurements and estimates of 160 decibel (dB) and 180 dB isopleths collected by the hydrophone streamer of the *R/V Marcus Langseth* in shallow water were smaller than the modeled (*i.e.,* predicted) zones for two seismic surveys conducted offshore New Jersey in shallow water in 2014 and 2015. In that particular case, Crone's (2015) results showed that LDEO's modeled 180 dB and 160 dB zones were approximately 28 percent and 33 percent larger respectively, than the in-situ, site-specific measurements, thus confirming that LDEO's model was conservative in that case.

The following is a summary of two additional analyses of in-situ data that support LDEO's use of the modeled Level A and Level B harassment zones in this particular case. In 2010, LDEO assessed the accuracy of their modeling approach by comparing the sound levels of the field measurements acquired in the Gulf of Mexico study to their model predictions (Diebold *et al.,* 2010). They reported that the observed sound levels from the field measurements fell almost entirely below the predicted harassment radii curve for deep water (*i.e.,* greater than 1,000 m; 3,280.8 ft) (Diebold *et al.,* 2010). In 2012, LDEO used a similar process to model distances to isopleths corresponding to Level A and Level B harassment thresholds for a shallow-water seismic survey in the northeast Pacific Ocean off Washington State. LDEO conducted the shallow-water survey using a 6,600 in^3 airgun configuration aboard the *R/V Marcus Langseth* and recorded the received sound levels on both the shelf and slope using the *Langseth's* 8 km hydrophone streamer. Crone *et al.* (2014) analyzed those received sound levels from the 2012 survey and confirmed that in-situ, site specific measurements and estimates of the 160 dB and 180 dB isopleths collected by the *Langseth's* hydrophone streamer in shallow water were two to three times smaller than LDEO's modeling approach had predicted. While the results confirmed the role of bathymetry in sound propagation, Crone *et al.* (2014) were also able to confirm that the empirical measurements from the Gulf of Mexico calibration survey (the same measurements used to inform LDEO's modeling approach for the planned surveys in the northwest Atlantic

Ocean) overestimated the size of the exclusion and buffer zones for the shallow-water 2012 survey off Washington State and were thus precautionary, in that particular case.

NMFS continues to work with LDEO to address the issue of incorporating site-specific information for future authorizations for seismic surveys. However, LDEO's current modeling approach (supported by the three studies discussed previously) represents the best available information for NMFS to reach determinations for this IHA. As described earlier, the comparisons of LDEO's model results and the field data collected at multiple locations (*i.e.,* the Gulf of Mexico, offshore Washington State, and offshore New Jersey) illustrate a degree of conservativeness built into LDEO's model for deep water, which NMFS expects to offset some of the limitations of the model to capture the variability resulting from site-specific factors. Based upon the best available information (*i.e.,* the referenced studies, two of which are peer-reviewed, discussed in this response), NMFS finds that the Level A and Level B harassment zone calculations are reasonable and appropriate for use in this particular IHA.

LDEO has conveyed to NMFS that additional modeling efforts to refine the process and conduct comparative analysis may be possible with the availability of research funds and other resources. Obtaining research funds is typically accomplished through a competitive process, including those submitted to U.S. Federal agencies. The use of models for calculating Level A and Level B harassment zones and for developing take estimates is not a requirement of the MMPA incidental take authorization process. Further, NMFS does not provide specific guidance on model parameters nor prescribe a specific model for applicants as part of the MMPA incidental take authorization process at this time, although we do review methods to ensure that they are adequate for reasonable prediction of take. There is a level of variability not only with parameters in the models, but also the uncertainty associated with data used in models, and therefore, the quality of the model results submitted by applicants. NMFS considers this variability when evaluating applications and the take estimates and mitigation measures that the model informs. NMFS takes into consideration the model used, and its results, in determining the potential impacts to marine mammals; however, it is just one component of the analysis during the MMPA authorization process as NMFS also takes into consideration other factors associated with the activity (*e.g.,* geographic location, duration of activities, context, sound source intensity, etc.).

Comment 4: The Commission recommends that NMFS require USGS to archive, analyze, and compare the in-situ data collected by the sonobuoys and hydrophone streamer to LDEO's modeling results for the extents of the Level A and B harassment zones based on the various airgun configurations and water depths to be surveyed and provide the data and results to NMFS.

Response: NMFS will suggest that the USGS use its collected data to both analyze and compare with LDEO's modeling results and share with NMFS. However, NMFS does not deem it necessary to require USGS to use the in-situ data it collects from the sonobuoys and hydrophone streamer it deploys during its cruise. As stated in the response to *Comment 2,* NMFS continues to work with LDEO to address the issue of incorporating site-specific information for future authorizations for seismic surveys. Nevertheless, LDEO's Nucleus model has shown to be conservative when compared to in-situ, site specific measurements and estimates (Crone 2015). Therefore, NMFS asserts that the use of the Nucleus source model in its current state is appropriate.

Comment 5: The Commission recommends that NMFS ensure that USGS calculated the numbers of takes appropriately based on the line-kilometers to be surveyed in each of the 11 tracklines and the number of days it would take to survey each location, the associated ensonified areas, and site-specific densities—species-specific takes from each of the 11 locations should be summed to yield the total numbers of takes for each species.

Response: The number of days are factored into the take estimates. To calculate take, USGS used 10 km x 10 km density grid blocks taken from Roberts et al. (2016) which were intersected with two different buffer zones. One buffer is equivalent to the largest Level A harassment zone and the other is equal to both the largest Level A harassment zone and Level B harassment zone (for the Optimal Survey) combined. As a result, the modeling method derived a take total for each 10 km x 10 km block the R/V *Sharp* will survey. Take totals for each block were each added (rounded at the end) to come up with the take estimates for each species. Due to the short duration (a few hours at most) that the R/V *Sharp* will conduct seismic operations in each 10 km x 10 km survey block, the number of days (1 day per block) is factored into the take estimates.

Comment 6: The Commission recommends that NMFS require USGS to provide in all future applications all relevant information regarding line-kilometers to be surveyed and days necessary to survey each location based on a presumed survey speed, associated ensonified areas, site-specific densities, and any other assumptions (including the assumed 25-percent contingency).

Response: NMFS will continue to request as much information from applicants as necessary to determine if their take methodology is scientifically accurate. After NMFS's request, USGS provided NMFS and the Commission with more data to analyze the method used to estimate take during the survey. In reviewing these data with the density estimates provided in Roberts et al. (2016), NMFS determined that the methodology used for take calculation in the IHA application is appropriate. In all, USGS provided NMFS with enough information to effectively assess the generated take estimates. For future surveys, USGS will work to provide a technical guidance document that will better detail its take methodology using Geographic Information Systems (GIS) software.

Comment 7: The Commission recommends that NMFS share its rounding criteria.

Response: On June 27, 2018, NMFS provided the Commission with internal guidance on rounding and the consideration of additional factors in take estimation.

Comment 8: The Commission recommends that NMFS condition the authorization to limit USGS's use of the echosounder during transits to and from the survey area except during calibration. In addition, the Commission recommends NMFS advise USGS that it needs to obtain additional authorization to take marine mammals while using an echosounder to collect gas hydrate data during transits to and from the survey area.

Response: As stated in the IHA application, marine mammals would have to be either very close and remain near the sound source for many repeated pings to receive overall exposures sufficient to cause TTS onset (Lucke et al. 2009; Finneran and Schlundt 2010) from the fisheries echosounder. The echosounder used by USGS during the MATRIX survey will only transmit conically downward in a maximum 10 degree cone. Based on modeling by the U.S. Geological Survey, the area ensonified at greater than 160 dB re: 1 μPa (rms) is 0.0407 square kilometers (0.0119 square nautical

miles), corresponding to a maximum of approximately 72 meters (236.2 feet) athwartship and approximately 650 meters (2,132.6 feet) below the research vessel (See Figure 18 of USGS 2018). This, combined with the vessel strike avoidance measures stipulated in section 4(f) of the IHA for the USGS MATRIX survey allows NMFS to concur that the minimal use of a scientific echosounder during transits is not reasonably likely to result in the incidental taking of marine mammals pursuant to the MMPA.

Description of Marine Mammals in the Area of Specified Activities

A detailed description of the species likely to be affected by USGS's geophysical survey, including brief introductions to the species and relevant stocks as well as available information regarding population trends and threats, and information regarding local occurrence, were provided in the **Federal Register** notice for the proposed IHA (83 FR 25268; May 31, 2018); since that time, we are not aware of any changes in the status of these species and stocks; therefore, detailed descriptions are not provided here. Please refer to that **Federal Register** notice for these descriptions. Please also refer to NMFS' website (*https://www.fisheries.noaa.gov/topic/population-assessments/marine-mammals*) for generalized species accounts. All species that could potentially occur in the planned survey area are included in Table 2. However, density estimates in Roberts *et al.* (2016) present very low density estimates within the proposed action area during the month of August for north Atlantic right whale, harbor porpoise, minke whale, Bryde's whale, blue whale, and white-beaked dolphin (See Table 6 of IHA Application). This, in combination with the short length of the cruise and low level airguns provide reasonable evidence that take authorization is not necessary, nor should they be authorized for these species. Species with expected take are discussed below.

TABLE 2—MARINE MAMMALS THAT COULD OCCUR IN THE PROJECT AREA

Common name	Scientific name	Stock	ESA/ MMPA status; strategic (Y/N) [1]	NMFS stock abundance (CV, N_{min}, most recent abundance survey) [2]	Predicted abundance (CV) [5]	PBR	Annual M/SI [3]
Order Cetartiodactyla—Cetacea—Superfamily Mysticeti (baleen whales) Family Balaenidae							
North Atlantic right whale	*Eubalaena glacialis*	Western North Atlantic (WNA).	E/D; Y	458 (n/a; 455; n/a)	334 (0.25)	1.4	36
Family Balaenopteridae (rorquals)							
Humpback whale	*Megaptera novaeangliae novaeangliae.*	Gulf of Maine	-; N	335 (.42; 239; 2012)	1,637 (0.07)	3.7	8.5
Minke whale	*Balaenoptera acutorostrata acutorostrata.*	Canadian East Coast	-; N	2,591 (0.81; 1,425; 2011)	2,112 (0.05)	14	9
Bryde's whale	*B. edeni brydei*	None defined [4]	-; n/a	n/a	7 (0.58)	n/a	n/a
Sei whale	*B. borealis borealis*	Nova Scotia	E/D; Y	357 (0.52; 236; 2011)	98 (0.25)	0.5	0.8
Fin whale	*B. physalus physalus*	WNA	E/D; Y	1,618 (0.33; 1,234; 2011)	4,633 (0.08)	2.5	2.65
Blue whale	*B. musculus musculus*	WNA	E/D; Y	Unknown (n/a; 440; n/a)	11 (0.41)	0.9	Unk
Superfamily Odontoceti (toothed whales, dolphins, and porpoises) Family Physeteridae							
Sperm whale	*Physeter macrocephalus*	North Atlantic	E/D; Y	2,288 (0.28; 1,815; 2011)	5,353 (0.12)	3.6	0.8
Family Kogiidae							
Pygmy sperm whale	*Kogia breviceps*	WNA	-; N	3,785 (0.47; 2,598; 2011)	678 (0.23)	21	3.5
Dwarf sperm whale	*K. sima*	WNA	-; N				
Family Ziphiidae (beaked whales)							
Cuvier's beaked whale	*Ziphius cavirostris*	WNA	-; N	6,532 (0.32; 5,021; 2011)	14,491(0.17)	50	0.4
Gervais beaked whale	*Mesoplodon europaeus*	WNA	-; N	7,092 (0.54; 4,632; 2011)		46	0.2
Blainville's beaked whale	*M. densirostris*	WNA	-; N				
Sowerby's beaked whale	*M. bidens*	WNA	-; N				
True's beaked whale	*M. mirus*	WNA	-; N				
Northern bottlenose whale	*Hyperoodon ampullatus*	WNA	-; N	Unknown	90 (0.63)	Undet.	0
Family Delphinidae							
Rough-toothed dolphin	*Steno bredanensis*	WNA	-; N	271 (1.0; 134; 2011)	532 (0.36)	1.3	0
Common bottlenose dolphin.	*Tursiops truncatus truncatus.*	WNA Offshore	-; N	77,532 (0.40; 56,053; 2011).	97,476 (0.06)	561	39.4
Clymene dolphin	*Stenella clymene*	WNA	-; N	Unknown	12,515 (0.56)	Undet.	0
Atlantic spotted dolphin	*S. frontalis*	WNA	-; N	44,715 (0.43; 31,610; 2011).	55,436 (0.32)	316	0
Pantropical spotted dolphin	*S. attenuata attenuata*	WNA	-; N	3,333 (0.91; 1,733; 2011)	4,436 (0.33)	17	0
Spinner dolphin	*S. longirostris longirostris*	WNA	-; N	Unknown	262 (0.93)	Undet.	0
Striped dolphin	*S. coeruleoalba*	WNA	-; N	54,807 (0.3; 42,804; 2011).	75,657 (0.21)	428	0
Short-beaked common dolphin.	*Delphinus delphis delphis*	WNA	-; N	70,184 (0.28; 55,690; 2011).	86,098 (0.12)	557	437
Fraser's dolphin	*Lagenodelphis hosei*	WNA	-; N	Unknown	492 (0.76)	Undet.	0
Atlantic white-sided dolphin	*Lagenorhynchus acutus*	WNA	-; N	48,819 (0.61; 30,403; 2011).	37,180 (0.07)	304	57

TABLE 2—MARINE MAMMALS THAT COULD OCCUR IN THE PROJECT AREA—Continued

Common name	Scientific name	Stock	ESA/ MMPA status; strategic (Y/N) [1]	NMFS stock abundance (CV, N_{min}, most recent abundance survey) [2]	Predicted abundance (CV) [5]	PBR	Annual M/SI [3]
Risso's dolphin	*Grampus griseus*	WNA	-; N	18,250 (0.46; 12,619; 2011).	7,732 (0.09)	126	43.2
Melon-headed whale	*Peponocephala electra*	WNA	-; N	Unknown	1,175 (0.50)	Undet.	0
Pygmy killer whale	*Feresa attenuata*	WNA	-; N	Unknown	N/A	Undet.	0
False killer whale	*Pseudorca crassidens*	WNA	-; Y	442 (1.06; 212; 2011)	95 (0.84)	2.1	Unk.
Killer whale	*Orcinus orca*	WNA	-; N	Unknown	11	Undet.	0
Short-finned pilot whale	*Globicephala macrorhynchus.*	WNA	-; Y	21,515 (0.37; 15,913; 2011).	18,977 (0.11)	159	192
Long-finned pilot whale	*G. melas melas*	WNA	-; Y	5,636 (0.63; 3,464; 2011)		35	38
White-beaked dolphin	*Lagenorhynchus albirostris.*	WNA	-; N	2,003 (0.94; 1,023; 2007)	39 (0.42)	10	0
Family Phocoenidae (porpoises)							
Harbor porpoise	*Phocoena phocoena phocoena.*	Gulf of Maine/Bay of Fundy.	-; N	79,833 (0.32; 61,415; 2011).	45,089 (0.12)	706	307

[1] Endangered Species Act (ESA) status: Endangered (E), Threatened (T)/MMPA status: Depleted (D). A dash (-) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR or which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.

[2] NMFS marine mammal stock assessment reports online at: *www.nmfs.noaa.gov/pr/sars/.* CV is coefficient of variation; N_{min} is the minimum estimate of stock abundance.

[3] These values, found in NMFS' SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (*e.g.,* commercial fisheries, ship strike). Annual M/SI often cannot be determined precisely and is in some cases presented as a minimum value or range. A CV associated with estimated mortality due to commercial fisheries is presented in some cases.

[4] Bryde's whales are occasionally reported off the southeastern U.S. and southern West Indies. NMFS defines and manages a stock of Bryde's whales believed to be resident in the northern Gulf of Mexico, but does not define a separate stock in the Atlantic Ocean.

[5] Predicted mean abundance derived from Roberts *et al.* (2016).

Note—Italicized species in the ''Common Name ''column are not authorized for take.

Potential Effects of Specified Activities on Marine Mammals and Their Habitat

The effect of stressors associated with the specified activities (*e.g.,* seismic airguns) has the potential to result in behavioral harassment of marine mammals in the vicinity of the action areas. The **Federal Register** notice for the proposed IHA (83 FR 25268; May 31, 2018) included a discussion of the effects of such disturbance on marine mammals, therefore that information is not repeated here.

NMFS described potential impacts to marine mammal habitat in detail in our **Federal Register** notice of proposed authorization (83 FR 25268; May 31, 2018). In summary, due to the short duration of the activities and the relatively small area of the habitat that the survey covers, the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences for individual marine mammals or their populations.

Estimated Take

This section provides an estimate of the number of incidental takes for authorization through this IHA, which will inform both NMFS's consideration of ''small numbers'' and the negligible impact determination.

Harassment is the only type of take expected to result from these activities. Except with respect to certain activities not pertinent here, section 3(18) of the MMPA defines ''harassment'' as any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Authorized takes will be by Level B harassment only, in the form of disruption of behavioral patterns for individual marine mammals resulting from exposure to airguns. Based on the nature of the activity, the cryptic behavior and low density for *Kogia* spp. (the only high-frequency cetacean authorized for take) within the action areas, and the anticipated effectiveness of the mitigation measures (*i.e.,* shutdown and a minimum vessel distance of 100 m from large whales—discussed in detail below in the Mitigation section), Level A harassment is neither anticipated nor authorized. As described previously, no mortality is anticipated or authorized for this activity. Below we describe how the take is estimated.

Described in the most basic way, we estimate take by considering: (1) Acoustic thresholds above which NMFS believes the best available science indicates marine mammals will be behaviorally harassed or incur some degree of permanent hearing impairment; (2) the area or volume of water that will be ensonified above these levels in a day; (3) the density or occurrence of marine mammals within these ensonified areas; and, (4) and the number of days of activities. Below, we describe these components in more detail and present the take estimate.

Acoustic Thresholds

Using the best available science, NMFS has developed acoustic thresholds that identify the received level of underwater sound above which exposed marine mammals will be reasonably expected to be behaviorally harassed (equated to Level B harassment) or to incur PTS of some degree (equated to Level A harassment).

Level B Harassment for non-explosive sources—Though significantly driven by received level, the onset of behavioral disturbance from anthropogenic noise exposure is also informed to varying degrees by other factors related to the source (*e.g.,* frequency, predictability, duty cycle), the environment (*e.g.,* bathymetry), and the receiving animals (hearing, motivation, experience, demography, behavioral context) and can be difficult to predict (Southall *et al.,* 2007, Ellison *et al.,* 2012). Based on what the available science indicates and the practical need to use a threshold based on a factor that is both predictable and measurable for most activities, NMFS uses a generalized acoustic threshold based on received level to

estimate the onset of behavioral harassment. NMFS predicts that marine mammals are likely to be behaviorally harassed in a manner we consider Level B harassment when exposed to underwater anthropogenic noise above received levels of 120 decibels (dB) re 1 micro pascal (μPa) root mean square (rms) for continuous (*e.g.,* vibratory pile-driving, drilling) and above 160 dB re 1 μPa (rms) for non-explosive impulsive (*e.g.,* seismic airguns) sources. USGS's activity includes the use of impulsive seismic sources. Therefore, the 160 dB re 1 μPa (rms) criteria is applicable for analysis of Level B harassment.

Level A harassment for non-explosive sources—NMFS' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Technical Guidance, 2016) identifies dual criteria to assess auditory injury (Level A harassment) to five different marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive). As described above, USGS's activity includes the use of intermittent and impulsive seismic sources. These thresholds are provided in the table below. The references, analysis, and methodology used in the development of the thresholds are described in NMFS 2016 Technical Guidance, which may be accessed at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance.*

TABLE 3—THRESHOLDS IDENTIFYING THE ONSET OF PERMANENT THRESHOLD SHIFT

Hearing group	PTS onset acoustic thresholds * (received level)	
	Impulsive	Non-impulsive
Low-Frequency (LF) Cetaceans	*Cell 1:* $L_{pk,flat}$: 219 dB; $L_{E,LF,24h}$: 183 dB	*Cell 2:* $L_{E,LF,24h}$: 199 dB.
Mid-Frequency (MF) Cetaceans	*Cell 3:* $L_{pk,flat}$: 230 dB; $L_{E,MF,24h}$: 185 dB	*Cell 4:* $L_{E,MF,24h}$: 198 dB.
High-Frequency (HF) Cetaceans	*Cell 5:* $L_{pk,flat}$: 202 dB; $L_{E,HF,24h}$: 155 dB	*Cell 6:* $L_{E,HF,24h}$: 173 dB.
Phocid Pinnipeds (PW) (Underwater)	*Cell 7:* $L_{pk,flat}$: 218 dB; $L_{E,PW,24h}$: 185 dB	*Cell 8:* $L_{E,PW,24h}$: 201 dB.
Otariid Pinnipeds (OW) (Underwater)	*Cell 9:* $L_{pk,flat}$: 232 dB; $L_{E,OW,24h}$: 203 dB	*Cell 10:* $L_{E,OW,24h}$: 219 dB.

* Dual metric acoustic thresholds for impulsive sounds: Use whichever results in the largest isopleth for calculating PTS onset. If a non-impulsive sound has the potential of exceeding the peak sound pressure level thresholds associated with impulsive sounds, these thresholds should also be considered.

Note: Peak sound pressure (L_{pk}) has a reference value of 1 μPa, and cumulative sound exposure level (L_E) has a reference value of 1μPa^{2}s. In this Table, thresholds are abbreviated to reflect American National Standards Institute standards (ANSI 2013). However, peak sound pressure is defined by ANSI as incorporating frequency weighting, which is not the intent for this Technical Guidance. Hence, the subscript "flat" is being included to indicate peak sound pressure should be flat weighted or unweighted within the generalized hearing range. The subscript associated with cumulative sound exposure level thresholds indicates the designated marine mammal auditory weighting function (LF, MF, and HF cetaceans, and PW and OW pinnipeds) and that the recommended accumulation period is 24 hours. The cumulative sound exposure level thresholds could be exceeded in a multitude of ways (*i.e.,* varying exposure levels and durations, duty cycle). When possible, it is valuable for action proponents to indicate the conditions under which these acoustic thresholds will be exceeded.

Ensonified Area

Here, we describe operational and environmental parameters of the activity that will feed into identifying the area ensonified above the acoustic thresholds

The survey will entail the use of a 4-airgun array with a total maximum discharge of 840 cubic inches (in^3) for operations that occur at water depths greater than 1,000 m and 420 in^3 for operations that occur at water depths of 1,000 m or less with at a tow depth of 3 m. The distances to the predicted isopleths corresponding to the threshold for Level B harassment (160 dB re 1 μPa) were calculated for both array configurations based on results of modeling performed by LDEO using the Nucleus Model. Received sound levels were predicted by LDEO's model (Diebold *et al.,* 2010) as a function of distance from the airgun array. The LDEO modeling approach uses ray tracing for the direct wave traveling from the array to the receiver and its associated source ghost (reflection at the air-water interface in the vicinity of the array), in a constant-velocity half-space (infinite homogeneous ocean layer unbounded by a seafloor). In addition, propagation measurements of pulses from a 36-airgun array at a tow depth of 6 m have been reported in deep water (~1,600 m), intermediate water depth on the slope (~600–1,100 m), and shallow water (~50 m) in the Gulf of Mexico in 2007–2008 (Tolstoy *et al.,* 2009; Diebold *et al.,* 2010). The estimated distances to Level B harassment isopleths for the two configurations of the *R/V Hugh R. Sharp* airgun array are shown in Table 4.

TABLE 4—MODELED RADIAL DISTANCES [m (km^2)] FROM R/V HUGH R. SHARP'S AIRGUN ARRAY TO ISOPLETHS CORRESPONDING TO LEVEL B HARASSMENT THRESHOLDS

Source and volume	Tow depth (m)	Water depth (m)	Predicted RMS Radii (m)
			160 dB
Base Configuration (Configuration 1): Four 105 in^3 GI-guns.	3	>1,000	1,091 m (3.7 km^2) [1]
		100–1,000	1,637 m (8.42 km^2) [2]
GG Configuration(Configuration 2): Four 210 in^3 GI-guns.	3	>1,000	1,244 m (4.86 km^2) [1]
		100–1,000	1,866 m (10.94 km^2) [2]

[1] Distance is based on L–DEO model results.
[2] Distance is based on L–DEO model results with a 1.5 × correction factor between deep and intermediate water depths.

For modeling of radial distances to predicted isopleths corresponding to harassment thresholds in deep water (>1,000 m), LDEO used the deep-water radii for various SELs obtained from LDEO model results down to a

maximum water depth of 2,000 m (see Figures 4 and 5 in the IHA application). LDEO's modeling methodology is described in greater detail in the IHA application (USGS, 2018) and we refer to the reader to that document rather than repeating it here.

Predicted distances to Level A harassment isopleths, which vary based on marine mammal functional hearing groups (Table 3), were calculated based on modeling performed by LDEO using the Nucleus software program and the NMFS User Spreadsheet, described below. The updated acoustic thresholds for impulsive sounds (such as airguns) contained in the Technical Guidance (NMFS, 2016) were presented as dual metric acoustic thresholds using both SEL_{cum} and peak sound pressure level metrics. As dual metrics, NMFS considers onset of PTS (Level A harassment) to have occurred when either one of the two metrics is exceeded *(i.e.,* metric resulting in the largest isopleth). The SEL_{cum} metric considers both level and duration of exposure, as well as auditory weighting functions by marine mammal hearing group. In recognition of the fact that the requirement to calculate Level A harassment ensonified areas could be more technically challenging to predict due to the duration component and the use of weighting functions in the new SEL_{cum} thresholds, NMFS developed an optional User Spreadsheet that includes tools to help predict a simple isopleth that can be used in conjunction with marine mammal density or occurrence to facilitate the estimation of take numbers.

The values for SEL_{cum} and peak SPL for the *R/V Hugh R. Sharp* airgun array were derived from calculating the modified farfield signature (Table 5). The farfield signature is often used as a theoretical representation of the source level. To compute the farfield signature, the source level is estimated at a large distance below the array (*e.g.,* 9 km), and this level is back projected mathematically to a notional distance of 1 m from the array's geometrical center. However, when the source is an array of multiple airguns separated in space, the source level from the theoretical farfield signature is not necessarily the best measurement of the source level that is physically achieved at the source (Tolstoy *et al.,* 2009). Near the source (at short ranges, distances <1 km), the pulses of sound pressure from each individual airgun in the source array do not stack constructively, as they do for the theoretical farfield signature. The pulses from the different airguns spread out in time such that the source levels observed or modeled are the result of the summation of pulses from a few airguns, not the full array (Tolstoy *et al.,* 2009). At larger distances, away from the source array center, sound pressure of all the airguns in the array stack coherently, but not within one time sample, resulting in smaller source levels than the source level derived from the farfield signature. Because the farfield signature does not take into account the array effect near the source and is calculated as a point source, the modified farfield signature is a more appropriate measure of the sound source level for distributed sound sources, such as airgun arrays. Though the array effect is not expected to be as pronounced in the case of a 4-airgun array as it will be with a larger airgun array, the modified farfield method is considered more appropriate than use of the theoretical farfield signature.

In order to more realistically incorporate the Technical Guidance's weighting functions over the seismic array's full acoustic band, unweighted spectrum data for the *R/V Hugh R. Sharp's* airgun array (modeled in 1 Hz bands) was used to make adjustments (dB) to the unweighted spectrum levels, by frequency, according to the weighting functions for each relevant marine mammal hearing group. These adjusted/weighted spectrum levels were then converted to pressures (μPa) in order to integrate them over the entire broadband spectrum, resulting in broadband weighted source levels by hearing group that could be directly incorporated within the User Spreadsheet (*i.e.,* to override the Spreadsheet's more simple weighting factor adjustment). Using the User Spreadsheet's ''safe distance'' methodology for mobile sources (described by Sivle *et al.,* 2014) with the hearing group-specific weighted source levels, and inputs assuming spherical spreading propagation, a source velocity of 2.06 m/second and a shot interval of 12.15 seconds, potential radial distances to auditory injury zones were calculated for Peak SPL_{flat} and SEL_{cum} thresholds, for both array configurations. Source level Inputs to the User Spreadsheet are shown in Table 5 (inputs to the user spreadsheet also included the source velocity and shot interval listed above). Outputs from the User Spreadsheet in the form of estimated distances to Level A harassment isopleths are shown in Table 6. The larger distance of the dual criteria (SEL_{cum} or Peak SPL_{flat}) is used for estimating takes by Level A harassment. The weighting functions used are shown in Appendix C of the IHA application.

TABLE 5—MODELED SOURCE LEVELS ** (dB) FOR THE R/V HUGH R. SHARP'S AIRGUN ARRAY

Functional hearing group	Configuration 1 * 4 × 105 cu^3 SEL_{cum}	Configuration 1 * 4 × 105 cu^3 Peak SPL_{flat}	Configuration 2 * 4 × 210 cu^3 SEL_{cum}	Configuration 2 * 4 × 210 cu^3 Peak SPL_{flat}	Configuration 3 * 2 × 105 cu^3 SEL_{cum}	Configuration 3 * 2 × 105 cu^3 Peak SPL_{flat}
Low frequency cetaceans ($L_{pk,flat}$: 219 dB; $L_{E,LF,24h:}$ 183 dB)	214	239	215	240	208	235
Mid frequency cetaceans ($L_{pk,flat}$: 230 dB; $L_{E,MF,24h}$: 185 dB)	214	N/A	215	N/A	208	234
High frequency cetaceans ($L_{pk,flat}$: 202 dB; $L_{E,HF,24h}$: 155 dB)	214	239	215	240	208	235

* All configurations have the following airgun specifications: 3 m tow depth; 2 m separation in the fore-aft direction; 8.6 m separation in the port (starboard direction).
**Source Levels were rounded to nearest whole number. See Appendix C of IHA Application for exact value.

TABLE 6—MODELED RADIAL DISTANCES [m(m2)] FROM R/V HUGH R. SHARP'S AIRGUN ARRAY TO ISOPLETHS CORRESPONDING TO LEVEL A HARASSMENT THRESHOLDS

Functional hearing group	Configuration 1 4 × 105 cu^3 SEL_{cum}	Configuration 1 4 × 105 cu^3 3 m tow depth, Peak SPL_{flat}	Configuration 2 4 × 210 cu^3 SEL_{cum}	Configuration 2 4 × 210 cu^3 Peak SPL_{flat}	Configuration 3 2 × 105 cu^3 SEL_{cum}	Configuration 3 2 × 105 cu^3 Peak SPL_{flat}
Low frequency cetaceans ($L_{pk,flat}$: 219 dB; $L_{E,LF,24h}$: 183 dB).	31 m (3,019 m^2)	10.03 m (316 m^2).	39.5 m (4,902 m^2).	11.56 m (420 m^2).	10.6 m (353 m^2)	6.52 m (134 m^2)
Mid frequency cetaceans ($L_{pk,flat}$: 230 dB; $L_{E,MF,24h}$: 185 dB).	0	0	0	0	0	1.58 m (8 m^2)

TABLE 6—MODELED RADIAL DISTANCES [m(m2)] FROM R/V HUGH R. SHARP'S AIRGUN ARRAY TO ISOPLETHS CORRESPONDING TO LEVEL A HARASSMENT THRESHOLDS—Continued

Functional hearing group	Configuration 1 4×105 cu^3 SEL_{cum}	Configuration 1 4×105 cu^3 3 m tow depth, Peak SPL_{flat}	Configuration 2 4×210 cu^3 SEL_{cum}	Configuration 2 4×210 cu^3 Peak SPL_{flat}	Configuration 3 2×105 cu^3 SEL_{cum}	Configuration 3 2×105 cu^3 Peak SPL_{flat}
High frequency cetaceans ($L_{pk,flat}$: 202 dB; $L_{E,HF,24h}$: 155 dB).	0	70.43 m (15743.22 m^2).	0.1(.03 m^2)	80.50 m (20,358 m^2).	0	42.32 m (5,627 m^2)

Note that because of some of the assumptions included in the methods used, isopleths produced may be overestimates to some degree. However, these tools offer the best way to predict appropriate isopleths when more sophisticated 3D modeling methods are not available, and NMFS continues to develop ways to quantitatively refine these tools and will qualitatively address the output where appropriate. For mobile sources, such as this seismic survey, the User Spreadsheet predicts the closest distance at which a stationary animal would not incur PTS if the sound source traveled by the animal in a straight line at a constant speed.

Marine Mammal Occurrence

In this section we provide the information about the presence, density, or group dynamics of marine mammals that will inform the take calculations. The best available scientific information was considered in conducting marine mammal exposure estimates (the basis for estimating take). For all cetacean species, densities calculated by Roberts *et al.* (2016) were used. These represent the most comprehensive and recent density data available for cetacean species in the survey area. Roberts *et al.* (2016) retained 21,946 cetacean sightings for analysis, omitted 4,786 sightings, and modeled 25 individual species and 3 multi-species guilds. In order to develop density models for species, Roberts *et al.* (2016) used an approach known as density surface modeling, as seen in DoN (2007) and Roberts *et al.* (2016). This couples traditional distance sampling with multivariate regression modeling to produce density maps predicted from fine-scale environmental covariates (*e.g.,* Becker *et al.,* 2014).

In addition to the density information provided by Roberts *et al.* (2016), best available data on average group sizes taken from sightings in the western North Atlantic were also used. This is discussed more in the section below.

Take Calculation and Estimation

Here we describe how the information provided above is brought together to produce a quantitative take estimate. To estimate marine mammal exposures, the USGS used published, quantitative density models by Roberts *et al.* (2016) for the Survey Area, which is entirely within the U.S. EEZ. These models are provided at 10 km x 10 km resolution in ArcGIS compatible IMG grids on the Duke University cetacean density website (*http://seamap.env.duke.edu/models/Duke-EC-GOM-2015*). When available, the cetacean density models for Month 8 (August) were used. Otherwise, the generic annual density model was employed. Only a single density model is provided for the *Kogia* genus (dwarf and sperm pygmy whales), beaked whale guild (Blainville's, Cuvier's, Gervais', Sowerby's, and True's beaked whales), and for pilot whales (Globicephala spp.).

To determine takes, the USGS combined the Duke density grids with the zones corresponding to the Level A and Level B harassment thresholds (See Tables 4 and 6) arrayed on either side of each exemplary seismic line and linking/interseismic line. The takes by Level B and Level A harassment for each species in each 10 km x 10 km block of the IMG density grids were calculated based on the fractional area of each block intersected by the Level A and Level B harassment zones for LF, MF, and HF cetaceans. Summing takes along all of the lines yields the total take for each species for the action for the Base (Configuration 1) and Optimal (Configuration 2) surveys. The method also yields take for each survey line individually, allowing examination of those exemplary lines that will yield the largest or smallest take. No Level A harassment takes were calculated while using this method.

As indicated earlier, estimated numbers of individuals potentially exposed to sound above the Level B harassment threshold are based on the 160-dB re 1μPa (rms) criterion for all cetaceans. It is assumed that marine mammals exposed to airgun sounds that strong could change their behavior sufficiently to be considered taken by harassment. Table 7 shows the estimates of the number of cetaceans that potentially could be exposed to ≥160 dB re 1 μPa (rms) during the action for the Base Survey and the Optimal Survey. The takes in Table 7 represents 25 percent more than the number of takes calculated using the ArcGIS-based quantitative method devised by the USGS. This was used to account for potential additional seismic operations that may occur after repeat coverage of any areas where initial data quality is sub-standard.

Also, as shown in Table 7, rough toothed dolphin, sei whale, and humpback whale calculated takes were increased to account for the average size of one group for each species. Takes for rare species of marine mammals in the action area were also increased to the average size of one group. Rare species that could be encountered and taken during the surveys are not presented in Table 7, but are presented in Table 8. These species were omitted from Table 7 due to low calculated incidents of potential exposures (*i.e.,* less than the average group size). As a result, NMFS relied on average group size data to authorize the take of a single group of these species as a precautionary measure in case the survey encounters them. This is discussed further below Table 7.

The calculated takes in Table 7 and 8 also assume that the surveys will be completed. However, it is unlikely that the entire survey pattern (exemplary lines plus 50 percent of the interseismic, linking lines) will be completed given the limitations on ship time, likely logistical challenges (compressor and GI gun repairs), time spent on transits and refueling, and the historical problems with weather during August in the western North Atlantic. The USGS's calculated timelines indicate that 25 days, including contingency, could be required to complete the full survey pattern. However, only 22 days or fewer will be scheduled for this USGS survey. The lines that are actually acquired will be dependent on weather, strength of the Gulf Stream (affects ability to tow the streamer in the appropriate geometry), and other considerations.

TABLE 7—CALCULATED INCIDENTS OF POTENTIAL EXPOSURE FOR LEVEL B AND LEVEL A HARASSMENT

Species	Optimal survey		Max Level B take for optimal or base surveys +25%	Take (all Level B) [6]	Take as % of pop.[1]
	Level A	Level B			
Low Frequency Cetaceans					
Humpback whale	0	0	0	[5] 3	<0.1
Sei whale	*0*	*1*	1	[7] 3	2.04
Fin whale	*0*	*4*	5	5	0.1
Mid-Frequency Cetaceans					
Sperm whale	*0*	*128*	*161*	161	2.9
Cuvier's beaked whale	0	[2] 103	[2] 128	[2] 128	<0.1
True's beaked whale	0				
Gervais beaked whale	0				
Sowerby's beaked whale	0				
Blainville's beaked whale	0				
Rough-toothed dolphin	0	5	6	[3] 10	1.9
Common bottlenose dolphin	0	606	757	757	0.8
Pantropical spotted dolphin	0	40	50	50	1.1
Atlantic spotted dolphin	0	1,278	1,598	1,598	2.9
Striped dolphin	0	1,167	1,459	1,459	1.9
Short-beaked common dolphin	0	1,296	1,620	1,620	1.9
Risso's dolphin	0	189	237	237	3
Long-finned pilot whale	0	[4] 231	0	[4] 288	1.5
Short-finned pilot whale	0	0	0		
Clymene's dolphin	0	97	0	122	1
High-Frequency Cetaceans					
Pygmy/dwarf sperm whale	0	7	0	9	0.2

[1] Based on mean abundance estimates from Roberts *et al.* (2016).
[2] Values for density, take number, and percentage of population for authorization are for all beaked whales combined.
[3] Based on one average group size for rough toothed dolphin (Jefferson 2015).
[4] Values for density, take number, and percentage of population for authorization are for short-finned and long-finned pilot whales combined.
[5] Based on one average group size for humpback whales (CETAP 1982). Summer seasonal sightings compiled from the OBIS database (See Figure 6 of IHA Application) show that humpback whales have been seen in the northern part of the action area during August.
[6] Values are the same take numbers shown in Table 8 below. Table 8 includes take of rare species discussed below.
[7] Based on one average group size for sei whale in the western Atlantic (CETAP 1982).

Certain species potentially present in the survey areas are expected to be encountered only extremely rarely, if at all. Although Roberts *et al.* (2016) provide density models for these species (with the exception of the pygmy killer whale), due to the small numbers of sightings that underlie these models' predictions we believe it appropriate to account for the small likelihood that these species will be encountered by assuming that one group of each of these species might be encountered once by a given survey. With the exception of the northern bottlenose whale, none of these species should be considered cryptic (*i.e.,* difficult to observe when present) versus rare (*i.e.,* not likely to be present). Average group size was determined by considering known sightings in the western North Atlantic (CETAP, 1982; Hansen *et al,* 1994; NMFS, 2010a, 2011, 2012, 2013a, 2014, 2015a; Waring *et al.,* 2007, 2015). It is important to note that our authorization of take equating to harassment of one group of each of these species is not equivalent to expected exposure. We do not expect that these rarely occurring (in the survey area) species will be exposed at all. Nonetheless, we are providing USGS with authorization to take these species, consistent with the terms of this IHA, in the unlikely event they are encountered. We provide a brief description for each of these species below.

Northern Bottlenose Whale—Northern bottlenose whales are considered extremely rare in U.S. Atlantic waters, with only five NMFS sightings. The southern extent of distribution is generally considered to be approximately Nova Scotia (though Mitchell and Kozicki (1975) reported stranding records as far south as Rhode Island), and there have been no sightings within the survey areas. Whitehead and Wimmer (2005) estimated the size of the population on the Scotian Shelf at 163 whales (95 percent CI 119–214). Whitehead and Hooker (2012) report that northern bottlenose whales are found north of approximately 37.5° N and prefer deep waters along the continental slope. Roberts *et al.* (2016) produced a stratified density model on the basis of four sightings in the vicinity of Georges Bank (Roberts *et al.,* 2015b). The five sightings in U.S. waters yield a mean group size of 2.2 whales, while MacLeod and D'Amico report a mean group size of 3.6. Here, we authorize take of one group with a maximum group size of four whales.

Killer Whale—Killer whales are also considered rare in U.S. Atlantic waters (Katona *et al.,* 1988; Forney and Wade, 2006), constituting 0.1 percent of marine mammal sightings in the 1978–81 Cetacean and Turtle Assessment Program surveys (CETAP, 1982). Roberts *et al.* (2016) produced a stratified density model on the basis of four killer whale sightings (Roberts *et al.,* 2015g), though Lawson and Stevens (2014) provide a minimum abundance estimate of 67 photo-identified individual killer whales. Available information suggests that survey encounters with killer whales will be unlikely but could occur anywhere within the survey area and at any time of year (*e.g.,* Lawson and Stevens, 2014). Silber *et al.* (1994) reported observations of two and 15 killer whales in the Gulf of California (mean group size 8.5), while May-Collado *et al.* (2005) described mean group size of 3.6 whales off the Pacific coast of Costa Rica. Based on 12 CETAP sightings and one group observed during NOAA surveys (CETAP, 1982; NMFS, 2014), the average group size in the Atlantic is 6.8 whales. Therefore, we

authorize take of one group with a maximum group size of seven whales.

False Killer Whale—Although records of false killer whales from the U.S. Atlantic are uncommon, a combination of sighting, stranding, and bycatch records indicates that this species does occur in the western North Atlantic (Waring *et al.,* 2015). Baird (2009) suggests that false killer whales may be naturally uncommon throughout their range. Roberts *et al.* (2016) produced a stratified density model on the basis of two false killer whale sightings (Roberts *et al.,* 2015m), and NMFS produced the first abundance estimate for false killer whales on the basis of one sighting during 2011 shipboard surveys (Waring *et al.,* 2015). Similar to the killer whale, we believe survey encounters will be unlikely but could occur anywhere within the survey area and at any time of year. Mullin *et al.* (2004) reported a mean false killer whale group size of 27.5 from the Gulf of Mexico, and May-Collado *et al.* (2005) described mean group size of 36.2 whales off the Pacific coast of Costa Rica. The few sightings from CETAP (1982) and from NOAA shipboard surveys give an average group size of 10.3 whales. As a precaution, we authorize take of one group with a maximum group size of 28 whales, as reported from the Gulf of Mexico.

Pygmy Killer Whale—The pygmy killer whale is distributed worldwide in tropical to sub-tropical waters, and is assumed to be part of the cetacean fauna of the tropical western North Atlantic (Jefferson *et al.,* 1994; Waring *et al.,* 2007). Pygmy killer whales are rarely observed by NOAA surveys outside the Gulf of Mexico—one group was observed off of Cape Hatteras in 1992—and the rarity of such sightings may be due to a naturally low number of groups compared to other cetacean species (Waring *et al.,* 2007). NMFS has never produced an abundance estimate for this species and Roberts *et al.* (2016) were not able to produce a density model for the species. The 1992 sighting was of six whales; therefore, we authorize take of one group with a maximum group size of six whales.

Melon-headed Whale—Similar to the pygmy killer whale, the melon-headed whale is distributed worldwide in tropical to sub-tropical waters, and is assumed to be part of the cetacean fauna of the tropical western North Atlantic (Jefferson *et al.,* 1994; Waring *et al.,* 2007). Melon-headed whales are rarely observed by NOAA surveys outside the Gulf of Mexico—groups were observed off of Cape Hatteras in 1999 and 2002—and the rarity of such sightings may be due to a naturally low number of groups compared to other cetacean species (Waring *et al.,* 2007). NMFS has never produced an abundance estimate for this species and Roberts *et al.* (2016) produced a stratified density model on the basis of four sightings (Roberts *et al.,* 2015d). The two sightings reported by Waring *et al.* (2007) yield an average group size of 50 whales; therefore, we authorize take of a single group of a maximum of 50 whales.

Spinner Dolphin—Distribution of spinner dolphins in the Atlantic is poorly known, but they are thought to occur in deep water along most of the U.S. coast south to the West Indies and Venezuela (Waring *et al.,* 2014). There have been a handful of sightings in deeper waters off the northeast United States and one sighting during a 2011 NOAA shipboard survey off North Carolina, as well as stranding records from North Carolina south to Florida and Puerto Rico (Waring *et al.,* 2014). Roberts *et al.* (2016) provide a stratified density model on the basis of two sightings (Roberts *et al.,* 2015i). Regarding group size, Mullin *et al.* (2004) report a mean of 91.3 in the Gulf of Mexico; May-Collado (2005) describe a mean of 100.6 off the Pacific coast of Costa Rica; and CETAP (1982) sightings in the Atlantic yield a mean group size of 42.5 dolphins. As a precaution, we authorize taking a single group with a maximum size of 91 dolphins (derived from mean group size reported in Mullin *et al.* 2004).

Fraser's Dolphin—As was stated for both the pygmy killer whale and melon-headed whale, the Fraser's dolphin is distributed worldwide in tropical waters, and is assumed to be part of the cetacean fauna of the tropical western North Atlantic (Perrin *et al.,* 1994; Waring *et al.,* 2007). The paucity of sightings of this species may be due to naturally low abundance compared to other cetacean species (Waring *et al.,* 2007). Despite possibly being more common in the Gulf of Mexico than in other parts of its range (Dolar 2009), there were only five reported sightings during NOAA surveys from 1992–2009. In the Atlantic, NOAA surveys have yielded only two sightings (Roberts *et al.,* 2015f). May-Collado *et al.* (2005) reported a single observation of 158 Fraser's dolphins off the Pacific coast of Costa Rica, and Waring *et al.* (2007) describe a single observation of 250 Fraser's dolphins in the Atlantic, off Cape Hatteras. Therefore, we authorize take of a single group with a maximum group size of 204 dolphins (derived from average of May-Collado *et al.* 2005 and Waring *et al.* 2007 sightings data).

Atlantic White-sided Dolphin—White-sided dolphins are found in temperate and sub-polar continental shelf waters of the North Atlantic, primarily in the Gulf of Maine and north into Canadian waters (Waring *et al.,* 2016). Palka *et al.* (1997) suggest the existence of stocks in the Gulf of Maine, Gulf of St. Lawrence, and Labrador Sea. Stranding records from Virginia and North Carolina suggest a southerly winter range extent of approximately 35° N (Waring *et al.,* 2016); therefore, it is possible that the surveys could encounter white-sided dolphins. Roberts *et al.* (2016) elected to split their study area at the north wall of the Gulf Stream, separating the cold northern waters, representing probable habitat, from warm southern waters, where white-sided dolphins are likely not present (Roberts *et al.,* 2015k). Over 600 observations of Atlantic white-sided dolphins during CETAP (1982) and during NMFS surveys provide a mean group size estimate of 47.7 dolphins, while Weinrich *et al.* (2001) reported a mean group size of 52 dolphins. Due to this data, we authorize take of a single group with a maximum group size of 48 dolphins.

TABLE 8—NUMBERS OF INCIDENTAL TAKE AUTHORIZED

Species	Level B take**	Level A take
Humpback whale	3	0
Sei whale	3	0
Fin whale	5	0
Sperm whale	161	0
Kogia spp	9	0
Beaked whales	128	0
Northern bottlenose whale*	*4	0
Rough-toothed dolphin	10	0
Common bottlenose dolphin	757	0

TABLE 8—NUMBERS OF INCIDENTAL TAKE AUTHORIZED—Continued

Species	Level B take**	Level A take
Clymene dolphin	122	0
Atlantic spotted dolphin	1,598	0
Pantropical spotted dolphin	50	0
Spinner dolphin*	*91	0
Striped dolphin	1,459	0
Short-beaked common dolphin	1,620	0
Fraser's dolphin*	*204	0
Atlantic white-sided dolphin*	*48	0
Risso's dolphin	237	0
Melon-headed whale*	*50	0
Pygmy killer whale*	*6	0
False killer whale*	*28	0
Killer whale*	*7	0
Pilot whales	288	0

*Level B harassment take for rare species represent take of a single group.
**Take numbers for non-rare species are the same as those reported in Table 7.

Mitigation

In order to issue an IHA under Section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking for certain subsistence uses (latter not applicable for this action). NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting such activity or other means of effecting the least practicable adverse impact upon the affected species or stocks and their habitat (50 CFR 216.104(a)(11)).

In evaluating how mitigation may or may not be appropriate to ensure the least practicable adverse impact on species or stocks and their habitat, as well as subsistence uses where applicable, we carefully consider two primary factors:

(1) The manner in which, and the degree to which, the successful implementation of the measure(s) is expected to reduce impacts to marine mammals, marine mammal species or stocks, and their habitat. This considers the nature of the potential adverse impact being mitigated (likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (probability of accomplishing the mitigating result if implemented as planned) the likelihood of effective implementation (probability implemented as planned); and

(2) The practicability of the measures for applicant implementation, which may consider such things as cost and impact on operations.

USGS has reviewed mitigation measures employed during seismic research surveys authorized by NMFS under previous incidental harassment authorizations, as well as recommended best practices in Richardson *et al.* (1995), Pierson *et al.* (1998), Weir and Dolman (2007), Nowacek *et al.* (2013), Wright (2014), and Wright and Cosentino (2015), and has incorporated a suite of mitigation measures into their project description based on the above sources.

To reduce the potential for disturbance from acoustic stimuli associated with the activities, USGS will implement the following mitigation measures for marine mammals:

(1) Vessel-based visual mitigation monitoring;

(2) Establishment of a marine mammal exclusion zone (EZ);

(3) Shutdown procedures;

(4) Ramp-up procedures; and

(5) Vessel strike avoidance measures.

In addition, USGS will establish a marine mammal buffer zone.

Protected Species Observer (PSO) observations will take place during all daytime airgun operations and nighttime start ups (if applicable) of the airguns. If airguns are operating throughout the night, observations will begin 30 minutes prior to sunrise. If airguns are operating after sunset, observations will continue until 30 minutes following sunset. Following a shutdown for any reason, observations will occur for at least 30 minutes prior to the planned start of airgun operations. Observations will also occur for 30 minutes after airgun operations cease for any reason. Observations will also be made during daytime periods when the *R/V Hugh R. Sharp* is underway without seismic operations, such as during transits, to allow for comparison of sighting rates and behavior with and without airgun operations and between acquisition periods. Airgun operations will be suspended when marine mammals are observed within, or about to enter, the designated Exclusion Zone (EZ) (as described below).

During seismic operations, three visual PSOs will be based aboard the *R/V Hugh R. Sharp.* PSOs will be appointed by USGS with NMFS approval. During the majority of seismic operations (excluding ramp-up), one PSOs will monitor for marine mammals around the seismic vessel. PSO(s) will be on duty in shifts of duration no longer than four hours. Other crew will also be instructed to assist in detecting marine mammals and in implementing mitigation requirements (if practical). Before the start of the seismic survey, the crew will be given additional instruction in detecting marine mammals and implementing mitigation requirements.

The *R/V Hugh R. Sharp* is a suitable platform from which PSOs will watch for marine mammals. Standard equipment for marine mammal observers will be 7×50 reticle binoculars, optical range finders, and Big Eye binoculars. At night, night-vision equipment will be available. The observers will be in communication with ship's officers on the bridge and scientists in the vessel's operations laboratory, so they can advise promptly of the need for avoidance maneuvers or seismic source shutdown.

The PSOs must have no tasks other than to conduct observational effort, record observational data, and communicate with and instruct relevant vessel crew with regard to the presence of marine mammals and mitigation requirements. PSO resumes will be

provided to NMFS for approval. At least one PSO must have a minimum of 90 days at-sea experience working as a PSO during a seismic survey. One ''experienced'' visual PSO will be designated as the lead for the entire protected species observation team. The lead will serve as primary point of contact for the USGS scientist-in-charge or his/her designee. The PSOs must have successfully completed relevant training, including completion of all required coursework and passing a written and/or oral examination developed for the training program, and must have successfully attained a bachelor's degree from an accredited college or university with a major in one of the natural sciences and a minimum of 30 semester hours or equivalent in the biological sciences and at least one undergraduate course in math or statistics. The educational requirements may be waived if the PSO has acquired the relevant skills through alternate training, including (1) secondary education and/or experience comparable to PSO duties; (2) previous work experience conducting academic, commercial, or government-sponsored marine mammal surveys; or (3) previous work experience as a PSO; the PSO will demonstrate good standing and consistently good performance of PSO duties.

Exclusion Zone and Buffer Zone

An EZ is a defined area within which occurrence of a marine mammal triggers mitigation action intended to reduce the potential for certain outcomes, *e.g.,* auditory injury, disruption of critical behaviors. The PSOs will establish a minimum EZ with a 100 m radius from the airgun array. The 100 m EZ will be based on radial distance from any element of the airgun array (rather than being based on the center of the array or around the vessel itself). With certain exceptions (described below), if a marine mammal appears within, enters, or appears on a course to enter this zone, the acoustic source will be shut down (see Shutdown Procedures below).

The 100 m radial distance of the standard EZ is precautionary in the sense that it will be expected to contain sound exceeding injury criteria (Level A harassment thresholds) for all marine mammal hearing groups (Table 6) while also providing a consistent, reasonably observable zone within which PSOs will typically be able to conduct effective observational effort.

Our intent in prescribing a standard EZ distance is to (1) encompass zones within which auditory injury could occur on the basis of instantaneous exposure; (2) provide additional protection from the potential for more severe behavioral reactions (*e.g.,* panic, antipredator response) for marine mammals at relatively close range to the acoustic source; (3) provide consistency for PSOs, who need to monitor and implement the EZ; and (4) define a distance within which detection probabilities are reasonably high for most species under typical conditions.

PSOs will also establish and monitor an additional 100 m buffer zone beginning from the outside extent of the 100 m EZ. During use of the acoustic source, occurrence of marine mammals within the 100 m buffer zone will be communicated to the USGS scientist-in-charge or his/her designee to prepare for potential shutdown of the acoustic source. The 100 m buffer zone is discussed further under *Ramp-Up Procedures* below.

Shutdown Procedures

If a marine mammal is detected outside the EZ but is likely to enter the EZ, the airguns will be shut down before the animal is within the EZ. Likewise, if a marine mammal is already within the EZ when first detected, the airguns will be shut down immediately.

Following a shutdown, airgun activity will not resume until the marine mammal has cleared the 100 m EZ. The animal will be considered to have cleared the 100 m EZ if the following conditions have been met:

- It is visually observed to have departed the 100 m EZ;
- it has not been seen within the 100 m EZ for 15 min in the case of small odontocetes; or
- it has not been seen within the 100 m EZ for 30 min in the case of mysticetes and large odontocetes, including sperm, pygmy and dwarf sperm, beaked whales, and large delphinids.

This shutdown requirement will be in place for all marine mammals, with the exception of small delphinoids under certain circumstances. This exception to the shutdown requirement will apply solely to specific genera of small dolphins—*Tursiops, Steno, Stenella, Lagenorhynchus* and *Delphinus*—Instead of shutdown, the acoustic source must be powered down to the smallest single element of the array if a dolphin of the indicated genera appears within or enters the 100-m exclusion zone. If there is uncertainty regarding identification (*i.e.,* whether the observed animal(s) belongs to the group described above), shutdown must be implemented. Power-down conditions shall be maintained until the animal(s) are no longer observed within the exclusion zone, following which full-power operations may be resumed without ramp-up. PSOs may elect to waive the power-down requirement if the animal(s) appear to be voluntarily approaching the vessel for the purpose of interacting with the vessel or towed gear, and may use best professional judgment in making this decision.

We include this small delphinoid exception because shutdown requirements for small delphinoids under all circumstances represent practicability concerns without likely commensurate benefits for the animals in question. Small delphinoids are generally the most commonly observed marine mammals in the specific geographic region and will typically be the only marine mammals likely to intentionally approach the vessel. As described below, auditory injury is extremely unlikely to occur for mid-frequency cetaceans (*e.g.,* delphinids), as this group is relatively insensitive to sound produced at the predominant frequencies in an airgun pulse while also having a relatively high threshold for the onset of auditory injury (*i.e.,* permanent threshold shift). Please see ''Potential Effects of the Specified Activity on Marine Mammals'' in the **Federal Register** notice for the proposed IHA (83 FR 25268; May 31, 2018) for further discussion of sound metrics and thresholds and marine mammal hearing.

A large body of anecdotal evidence indicates that small delphinoids commonly approach vessels and/or towed arrays during active sound production for purposes of bow riding, with no apparent effect observed in those delphinoids (*e.g.,* Barkaszi *et al.,* 2012). The potential for increased shutdowns resulting from such a measure will require the *R/V Hugh R. Sharp* to revisit the missed track line to reacquire data, resulting in an overall increase in the total sound energy input to the marine environment and an increase in the total duration over which the survey is active in a given area. Although other mid-frequency hearing specialists (*e.g.,* large delphinoids) are no more likely to incur auditory injury than are small delphinoids, they are much less likely to approach vessels. Therefore, retaining a shutdown requirement for large delphinoids will not have similar impacts in terms of either practicability for the applicant or corollary increase in sound energy output and time on the water. We do anticipate some benefit for a shutdown requirement for large delphinoids in that it simplifies somewhat the total range of decision-making for PSOs and may preclude any potential for physiological effects other

than to the auditory impacts. In addition, the required shutdown measure may prevent more severe behavioral reactions for any large delphnoids in close proximity to the source vessel.

Shutdown of the acoustic source will also be required upon observation beyond the 100 m EZ of any of the following:

- A large whale (*i.e.,* sperm whale or any baleen whale) with a calf;
- An aggregation of large whales of any species (*i.e.,* sperm whale or any baleen whale) that does not appear to be traveling (*e.g.,* feeding, socializing, etc.); or
- A marine mammal species not authorized (*i.e.,* a North Atlantic right whale) for take that is approaching or entering the Level B harassment zone.
- An authorized marine mammal species that has reached its total allotted Level B harassment take that is approaching or entering the Level B harassment zone.

These will be the only four potential situations that will require shutdown of the array for marine mammals observed beyond the 100 m EZ.

Ramp-Up Procedures

Ramp-up of an acoustic source is intended to provide a gradual increase in sound levels following a shutdown, enabling animals to move away from the source if the signal is sufficiently aversive prior to its reaching full intensity. Ramp-up will be required after the array is shut down for any reason. Ramp up to the full array will take 20 minutes, starting with operation of a single airgun and with one additional airgun added every 5 minutes.

At least two PSOs will be required to monitor during ramp-up. During ramp up, the PSOs will monitor the 100 m EZ, and if marine mammals were observed within or approaching the 100 m EZ, a shutdown will be implemented as though the full array were operational. If airguns have been shut down due to PSO detection of a marine mammal within or approaching the 100 m EZ, ramp-up will not be initiated until all marine mammals have cleared the EZ, during the day or night. Criteria for clearing the EZ will be as described above.

Thirty minutes of pre-clearance observation are required prior to ramp-up for any shutdown of longer than 30 minutes (*i.e.,* if the array were shut down during transit from one line to another). This 30 minute pre-clearance period may occur during any vessel activity (*i.e.,* transit). If a marine mammal were observed within or approaching the 100 m EZ or 100 m buffer zone (*i.e.,* total 200 m distance) during this pre-clearance period, ramp-up will not be initiated until all marine mammals cleared the 100 m EZ or 100 m buffer zone. Criteria for clearing the EZ will be as described above. If the airgun array has been shut down for reasons other than mitigation (*e.g.,* mechanical difficulty) for a period of less than 30 minutes, it may be activated again without ramp-up if PSOs have maintained constant visual observation and no detections of any marine mammal have occurred within the EZ or 100 m buffer zone. Ramp-up will be planned to occur during periods of good visibility when possible. However, ramp-up will be allowed at night and during poor visibility if the 100 m EZ and 100 m buffer zone have been monitored by visual PSOs for 30 minutes prior to ramp-up.

The USGS scientist-in-charge or his/her designee will be required to notify a designated PSO of the planned start of ramp-up as agreed-upon with the lead PSO; the notification time will not be less than 60 minutes prior to the planned ramp-up. A designated PSO must be notified again immediately prior to initiating ramp-up procedures and the USGS scientist-in-charge or his/her designee must receive confirmation from the PSO to proceed. The USGS scientist-in-charge or his/her designee must provide information to PSOs documenting that appropriate procedures were followed. Following deactivation of the array for reasons other than mitigation, the USGS scientist-in-charge or his/her designee will be required to communicate the near-term operational plan to the lead PSO with justification for any planned nighttime ramp-up.

Vessel Strike Avoidance Measures

Vessel strike avoidance measures are intended to minimize the potential for collisions with marine mammals. These requirements do not apply in any case where compliance will create an imminent and serious threat to a person or vessel or to the extent that a vessel is restricted in its ability to maneuver and, because of the restriction, cannot comply.

The measures include the following: The USGS scientist-in-charge or his/her designee, the vessel operator (The University of Delaware) and crew will maintain a vigilant watch for all marine mammals and slow down or stop the vessel or alter course to avoid striking any marine mammal. A visual observer aboard the vessel will monitor a vessel strike avoidance zone around the vessel according to the parameters stated below. Visual observers monitoring the vessel strike avoidance zone will be either third-party observers or crew members, but crew members responsible for these duties will be provided sufficient training to distinguish marine mammals from other phenomena. Vessel strike avoidance measures will be followed during surveys and while in transit.

The vessel will maintain a minimum separation distance of 100 m from large whales (*i.e.,* baleen whales and sperm whales) except for North Atlantic right whales. The vessel will maintain a minimum separation distance of 500 m from North Atlantic right whales. If a large whale is located within 100 m of the vessel or a North Atlantic right whale is located within 500 m of the vessel, the vessel will reduce speed and shift the engine to neutral, and will not engage the engines until the whale has moved outside of the vessel's path and the minimum separation distance has been established. If the vessel is stationary, the vessel will not engage engines until the whale(s) has moved out of the vessel's path and beyond 100 m or 500 m for North Atlantic right whale. The vessel will maintain a minimum separation distance of 50 m from all other marine mammals (with the exception of delphinids of the genera *Tursiops, Steno, Stenella, Lagenorhynchus* and *Delphinus* that approach the vessel, as described above). If an animal is encountered during transit, the vessel will attempt to remain parallel to the animal's course, avoiding excessive speed or abrupt changes in course. Vessel speeds will be reduced to 10 kn or less when mother/calf pairs, pods, or large assemblages of cetaceans (what constitues ''large'' will vary depending on species) are observed within 500 m of the vessel. Mariners may use professional judgment as to when such circumstances warranting additional caution are present.

Actions To Minimize Additional Harm to Live-Stranded (or Milling) Marine Mammals

In the event of a live stranding (or near-shore atypical milling) event within 50 km of the survey operations, where the NMFS stranding network is engaged in herding or other interventions to return animals to the water, the Director of OPR, NMFS (or designee) will advise the IHA-holder of the need to implement shutdown procedures for all active acoustic sources operating within 50 km of the stranding. Shutdown procedures for live stranding or milling marine mammals include the following:

• If at any time, the marine mammal(s) die or are euthanized, or if herding/intervention efforts are stopped, the Director of OPR, NMFS (or designee) will advise the IHA-holder that the shutdown is no longer needed.

• Otherwise, shutdown procedures will remain in effect until the Director of OPR, NMFS (or designee) determines and advises the IHA-holder that all live animals involved have left the area (either of their own volition or following an intervention).

• If further observations of the marine mammals indicate the potential for re-stranding, additional coordination with the IHA-holder will be required to determine what measures are necessary to minimize that likelihood (*e.g.,* extending the shutdown or moving operations farther away) and to implement those measures as appropriate.

Shutdown procedures are not related to the investigation of the cause of the stranding and their implementation is not intended to imply that the specified activity is the cause of the stranding. Rather, shutdown procedures are intended to protect marine mammals exhibiting indicators of distress by minimizing their exposure to possible additional stressors, regardless of the factors that contributed to the stranding.

Based on our evaluation of the applicant's measures, NMFS determined that the mitigation measures provide the means effecting the least practicable impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Monitoring and Reporting

In order to issue an IHA for an activity, Section 101(a)(5)(D) of the MMPA states that NMFS must set forth, requirements pertaining to the monitoring and reporting of such taking. The MMPA implementing regulations at 50 CFR 216.104(a)(13) indicate that requests for authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the action area. Effective reporting is critical both to compliance as well as ensuring that the most value is obtained from the required monitoring.

Monitoring and reporting requirements prescribed by NMFS will contribute to improved understanding of one or more of the following:

• Occurrence of marine mammal species or stocks in the area in which take is anticipated (*e.g.,* presence, abundance, distribution, density);

• Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) Action or environment (*e.g.,* source characterization, propagation, ambient noise); (2) affected species (*e.g.,* life history, dive patterns); (3) co-occurrence of marine mammal species with the action; or (4) biological or behavioral context of exposure (*e.g.,* age, calving or feeding areas);

• Individual marine mammal responses (behavioral or physiological) to acoustic stressors (acute, chronic, or cumulative), other stressors, or cumulative impacts from multiple stressors;

• How anticipated responses to stressors impact either: (1) Long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks;

• Effects on marine mammal habitat (*e.g.,* marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat); and

• Mitigation and monitoring effectiveness.

USGS submitted a marine mammal monitoring and reporting plan in their IHA application. Monitoring that is designed specifically to facilitate mitigation measures, such as monitoring of the EZ to inform potential shutdowns of the airgun array, are described above and are not repeated here.

USGS's monitoring and reporting plan includes the following measures:

Vessel-Based Visual Monitoring

As described above, PSO observations will take place during daytime airgun operations and nighttime start-ups (if applicable) of the airguns. During seismic operations, three visual PSOs will be based aboard the *R/V Hugh R. Sharp.* PSOs will be appointed by USGS with NMFS approval. During the majority of seismic operations (excluding ramp-up), one PSO will monitor for marine mammals around the seismic vessel. PSOs will be on duty in shifts of duration no longer than four hours. Other crew will also be instructed to assist in detecting marine mammals and in implementing mitigation requirements (if practical). During daytime, PSOs will scan the area around the vessel systematically with reticle binoculars, Big Eye binoculars, and with the naked eye. At night, PSOs will be equipped with night-vision equipment.

PSOs will record data to estimate the numbers of marine mammals exposed to various received sound levels and to document apparent disturbance reactions or lack thereof. Data will be used to estimate numbers of animals potentially taken by harassment. They will also provide information needed to order a shutdown of the airguns when a marine mammal is within or near the EZ. When a sighting is made, the following information about the sighting will be recorded:

(1) Species, group size, age/size/sex categories (if determinable), behavior when first sighted and after initial sighting, heading (if consistent), bearing and distance from seismic vessel, sighting cue, apparent reaction to the airguns or vessel (*e.g.,* none, avoidance, approach, paralleling, etc.), and behavioral pace; and

(2) Time, location, heading, speed, activity of the vessel, sea state, visibility, and sun glare.

All observations and shutdowns will be recorded in a standardized format. Data will be entered into an electronic database. The accuracy of the data entry will be verified by computerized data validity checks as the data are entered and by subsequent manual checking of the database. These procedures will allow initial summaries of data to be prepared during and shortly after the field program and will facilitate transfer of the data to statistical, graphical, and other programs for further processing and archiving. The time, location, heading, speed, activity of the vessel, sea state, visibility, and sun glare will also be recorded at the start and end of each observation watch, and during a watch whenever there is a change in one or more of the variables.

Results from the vessel-based observations will provide:

(1) The basis for real-time mitigation (*e.g.,* airgun shutdown);

(2) Information needed to estimate the number of marine mammals potentially taken by harassment, which must be reported to NMFS;

(3) Data on the occurrence, distribution, and activities of marine mammals in the area where the seismic study is conducted;

(4) Information to compare the distance and distribution of marine mammals relative to the source vessel at times with and without seismic activity; and

(5) Data on the behavior and movement patterns of marine mammals seen at times with and without seismic activity.

Reporting Injured or Dead Marine Mammals

Discovery of Injured or Dead Marine Mammal—In the event that personnel involved in the survey activities covered by the authorization discover an injured or dead marine mammal, the IHA-holder shall report the incident to the Office of Protected Resources (OPR), NMFS and to regional stranding coordinators as soon as feasible. The report must include the following information:

- Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
- Species identification (if known) or description of the animal(s) involved;
- Condition of the animal(s) (including carcass condition if the animal is dead);
- Observed behaviors of the animal(s), if alive;
- If available, photographs or video footage of the animal(s); and
- General circumstances under which the animal was discovered.

Vessel Strike—In the event of a ship strike of a marine mammal by any vessel involved in the activities covered by the authorization, the IHA-holder shall report the incident to OPR, NMFS and to regional stranding coordinators as soon as feasible. The report must include the following information:

- Time, date, and location (latitude/longitude) of the incident;
- Species identification (if known) or description of the animal(s) involved;
- Vessel's speed during and leading up to the incident;
- Vessel's course/heading and what operations were being conducted (if applicable);
- Status of all sound sources in use;
- Description of avoidance measures/requirements that were in place at the time of the strike and what additional measures were taken, if any, to avoid strike;
- Environmental conditions (*e.g.,* wind speed and direction, Beaufort sea state, cloud cover, visibility) immediately preceding the strike;
- Estimated size and length of animal that was struck;
- Description of the behavior of the marine mammal immediately preceding and following the strike;
- If available, description of the presence and behavior of any other marine mammals immediately preceding the strike;
- Estimated fate of the animal (*e.g.,* dead, injured but alive, injured and moving, blood or tissue observed in the water, status unknown, disappeared); and
- To the extent practicable, photographs or video footage of the animal(s).

Additional Information Requests—If NMFS determines that the circumstances of any marine mammal stranding found in the vicinity of the activity suggest investigation of the association with survey activities is warranted (example circumstances noted below), and an investigation into the stranding is being pursued, NMFS will submit a written request to the IHA-holder indicating that the following initial available information must be provided as soon as possible, but no later than 7 business days after the request for information.

- Status of all sound source use in the 48 hours preceding the estimated time of stranding and within 50 km of the discovery/notification of the stranding by NMFS; and
- If available, description of the behavior of any marine mammal(s) observed preceding (*i.e.,* within 48 hours and 50 km) and immediately after the discovery of the stranding.

Examples of circumstances that could trigger the additional information request include, but are not limited to, the following:

- Atypical nearshore milling events of live cetaceans;
- Mass strandings of cetaceans (two or more individuals, not including cow/calf pairs);
- Beaked whale strandings;
- Necropsies with findings of pathologies that are unusual for the species or area; or
- Stranded animals with findings consistent with blast trauma.

In the event that the investigation is still inconclusive, the investigation of the association of the survey activities is still warranted, and the investigation is still being pursued, NMFS may provide additional information requests, in writing, regarding the nature and location of survey operations prior to the time period above.

Reporting

A report will be submitted to NMFS within 90 days after the end of the survey. The report will describe the operations that were conducted and sightings of marine mammals near the operations. The report will provide full documentation of methods, results, and interpretation pertaining to all monitoring and will summarize the dates and locations of seismic operations, and all marine mammal sightings (dates, times, locations, activities, associated seismic survey activities). The report will also include estimates of the number and nature of exposures that occurred above the harassment threshold based on PSO observations, including an estimate of those on the trackline but not detected.

Negligible Impact Analysis and Determination

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.,* population-level effects). An estimate of the number of takes alone is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be ''taken'' through harassment, NMFS considers other factors, such as the likely nature of any responses (*e.g.,* intensity, duration), the context of any responses (*e.g.,* critical reproductive time or location, migration), as well as effects on habitat, and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS' implementing regulations (54 FR 40338; September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the environmental baseline (*e.g.,* as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

NMFS does not anticipate that serious injury or mortality will occur as a result of USGS's seismic survey, even in the absence of mitigation. Thus, the authorization does not authorize any mortality.

Potential impacts to marine mammal habitat were discussed previously in the **Federal Register** notice for the proposed IHA (83 FR 25268; May 31, 2018). Marine mammal habitat may be impacted by elevated sound levels, but these impacts will be temporary. Feeding behavior is not likely to be significantly impacted, as marine mammals appear to be less likely to exhibit behavioral reactions or avoidance responses while engaged in feeding activities (Richardson *et al.,* 1995). Prey species are mobile and are broadly distributed throughout the project 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, the availability of similar habitat and resources in the surrounding area, and 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. In addition, there are no feeding, mating or calving areas known to be biologically important to marine mammals within the project area during the time of the survey (LaBrecque *et al.,* 2015).

The acoustic ''footprint'' of the survey will be very small relative to the ranges of all marine mammals that will potentially be affected. Sound levels will increase in the marine environment in a relatively small area surrounding the vessel compared to the range of the marine mammals within the survey area. The seismic array will be active 24 hours per day throughout the duration of the survey. However, the very brief overall duration of the survey (22 days with 19 days of airgun operations) will further limit potential impacts that may occur as a result of the activity.

The mitigation measures are expected to reduce the number and/or severity of takes by allowing for detection of marine mammals in the vicinity of the vessel by visual and acoustic observers, and by minimizing the severity of any potential exposures via shutdowns of the airgun array.

Of the marine mammal species that are likely to occur in the project area during the survey timeframe, the following species are listed as endangered under the ESA; fin, sei, and sperm whales. There are currently insufficient data to determine population trends for these species (Hayes *et al.,* 2017); however, we are authorizing very small numbers of takes for these species (Table 6), relative to their population sizes (again, when compared to mean abundance estimates, for purposes of comparison only). Therefore, we do not expect population-level impacts to any of these species. The other marine mammal species that may be taken by harassment during USGS's seismic survey are not listed as threatened or endangered under the ESA. There is no designated critical habitat for any ESA-listed marine mammals within the project area; of the non-listed marine mammals for which we authorize take, none are considered ''depleted'' or ''strategic'' by NMFS under the MMPA, except for pilot whales and false killer whales.

NMFS concludes that exposures to marine mammal species due to USGS's seismic survey will result in only short-term (temporary and short in duration) effects to individuals exposed. Marine mammals may temporarily avoid the immediate area but are not expected to permanently abandon the area. Major shifts in habitat use, distribution, or foraging success are not expected. NMFS does not anticipate the take estimates to impact annual rates of recruitment or survival.

In summary and as described above, the following factors primarily support our determination that the impacts resulting from this activity are not expected to adversely affect the species or stock through effects on annual rates of recruitment or survival:

- No injury (Level A take), serious injury or mortality is anticipated or authorized;
- The anticipated impacts of the activity on marine mammals will primarily be temporary behavioral changes due to avoidance of the area around the survey vessel. The relatively short duration of the survey (22 days with 19 days of airgun operations) will further limit the potential impacts of any temporary behavioral changes that will occur;
- The availability of alternate areas of similar habitat value for marine mammals to temporarily vacate the survey area during the survey to avoid exposure to sounds from the activity;
- The project area does not contain areas of significance for feeding, mating or calving;
- The potential adverse effects on fish or invertebrate species that serve as prey species for marine mammals from the survey will be temporary and spatially limited; and
- The mitigation measures, including visual and acoustic monitoring and shutdowns, are expected to minimize potential impacts to marine mammals.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the monitoring and mitigation measures, NMFS finds that the total marine mammal take from the activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted above, only small numbers of incidental take may be authorized under Section 101(a)(5)(D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, where estimated numbers are available, NMFS compares the number of individuals taken to the most appropriate estimation of abundance of the relevant species or stock in our determination of whether an authorization is limited to small numbers of marine mammals. Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

Please see Tables 6 and 7 and the related text for information relating to the basis for our small numbers analyses. Table 7 provides the numbers of predicted exposures above specified received levels, while Table 7 provides the numbers of take authorized. For the northern bottlenose whale, Fraser's dolphin, melon-headed whale, false killer whale, pygmy killer whale, killer whale, spinner dolphin, and white-sided dolphin, we authorize take resulting from a single exposure of one group of each species or stock, as appropriate (using average group size), for each applicant. We believe that a single incident of take of one group of any of these species represents take of small numbers for that species. Due to the scarcity, broad spatial distributions, and habitat preferences of these species relative to the areas where the surveys will occur, NMFS concludes that the authorized take of a single group of these species likely represent small numbers relative to the affected species' overall population sizes. Therefore, based on the analyses contained herein of the specified activity, we find that small numbers of marine mammals will be taken for each of these eight affected species or stocks for the specified activity. We do not discuss these eight species further in this small numbers analysis.

As shown in Table 6, we used mean abundance estimates from Roberts (2016) to calculate the percentage of population that is estimated to be taken during the activities for non-rare species. The activity is expected to impact a very small percentage of all marine mammal populations. As presented in Table 6, take of all 21 marine mammal species authorized for take is less than three percent of the abundance estimate.

Based on the analysis contained herein of the activity (including the mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS finds that small numbers of marine mammals will be taken relative to the population size of the affected species or stocks.

Unmitigable Adverse Impact Analysis and Determination

There are no relevant subsistence uses of the affected marine mammal stocks or species implicated by this action. Therefore, NMFS has determined that the total taking of affected species or stocks will not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

Endangered Species Act (ESA)

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, in this case with NMFS' ESA Interagency Cooperation Division, whenever we authorize take for endangered or threatened species.

NMFS's ESA Interagency Cooperation Division issued a Biological Opinion on August 6, 2018 to NMFS Office of Protected Resources which concluded that the USGS's MATRIX survey is not likely to jeopardize the continued existence of the sei whale, fin whale, sperm whale, and north Atlantic right whale or adversely modify critical habitat.

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 incidental harassment authorization) with respect to potential impacts on the human environment. Accordingly, NMFS prepared an Environmental Assessment (EA) to consider the environmental impacts associated with the issuance of the IHA to USGS. We reviewed all comments submitted in response to the **Federal Register** notice for the proposed IHA (83 FR 25268; May 31, 2018) prior to concluding our NEPA process and deciding whether or not to issue a Finding of No Significant Impact (FONSI). NMFS concluded that issuance of an IHA to USGS will not significantly affect the quality of the human environment and prepared and issued a FONSI in accordance with NEPA and NAO 216–6A. NMFS's EA and FONSI for this activity are available on our website at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-research-and-other-activities.*

Authorization

As a result of these determinations, we have issued an IHA to USGS for conducting the described seismic survey activities from August 1, 2018 through July 31, 2019 provided the previously described mitigation, monitoring, and reporting requirements are incorporated.

Dated: August 7, 2018.

Donna S. Wieting,

Director, Office of Protected Resources, National Marine Fisheries Service.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XG291

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Pile Driving Activities for the Restoration of Pier 62, Seattle Waterfront, Elliott Bay

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

ACTION: 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 the Seattle Department of Transportation (DOT) to incidentally harass, by Level A and B harassment, marine mammals during pile driving and removal activities associated with the restoration of Pier 62, Seattle Waterfront, Elliott Bay in Seattle, Washington (Season 2).

DATES: This Authorization is applicable from August 1, 2018 through February 28, 2019.

FOR FURTHER INFORMATION CONTACT: Stephanie Egger, Office of Protected Resources, NMFS, (301) 427–8401. Electronic copies of the application and supporting documents, 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-construction-activities.* In case of problems accessing these documents, please call the contact listed above.

SUPPLEMENTARY INFORMATION:

Background

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 authorization is provided to the public for review.

An authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth.

NMFS has defined ''negligible impact'' in 50 CFR 216.103 as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.

The MMPA states that the term ''take'' means to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal.

Except with respect to certain activities not pertinent here, the MMPA defines ''harassment'' as any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

National Environmental Policy Act

In compliance with NOAA policy, the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 *et seq.*), and the Council on Environmental Quality Regulations (40 CFR parts 1500–1508), NMFS determined the issuance of the IHA qualifies to be categorically excluded from further NEPA review. This action is consistent with categories of activities identified in CE B4 of the Companion Manual for NOAA Administrative Order 216–6A, which do not individually or cumulatively have