

INCIDENTAL HARASSMENT AUTHORIZATION

TerraSond Limited (TerraSond) is hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1371(a)(5)(D)) to incidentally harass marine mammals, under the following conditions:

1. This incidental harassment authorization (IHA) is valid from February 1, 2023 through January 31, 2024.
2. This IHA authorizes take incidental to marine site characterization surveys, as specified in TerraSond's application, in Bureau of Ocean Energy Management (BOEM) Lease Areas OCS A-0545 and 0546, offshore of North Carolina and South Carolina.
3. General Conditions
 - (a) A copy of this IHA must be in the possession of TerraSond, the vessel operators, lead protected species observers (PSOs), and any other relevant designees operating under the authority of this IHA.
 - (b) The species and/or stocks authorized for taking are listed in Table 1. Authorized take, by Level B harassment only, is limited to the species and numbers listed in Table 1.
 - (c) The taking by serious injury or death of any of the species listed in Table 1 or any taking of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this IHA. Any taking exceeding the authorized amounts listed in Table 1 is prohibited and may result in the modification, suspension, or revocation of this IHA.
 - (d) TerraSond must instruct the relevant vessel personnel with regard to the authority of protected species monitoring team, and must ensure that relevant vessel personnel and the protected species monitoring team participate in a joint onboard briefing (hereafter PSO briefing), led by the vessel operator and lead PSO, prior to beginning survey activities to ensure that responsibilities, communication procedures, monitoring protocols, safety and operational procedures, and IHA requirements are clearly understood. This PSO briefing must be repeated when relevant new personnel join the survey operations before work commences.
 - (e) The acoustic source must be deactivated when not acquiring data or preparing to acquire data, except as necessary for testing. Unnecessary use of the acoustic source must be avoided.
 - (f) TerraSond must abide by the relevant Project Design Criteria (PDC 4, 5, and 7) of the programmatic consultation completed by NMFS Greater Atlantic Regional Fisheries Office on June 29, 2021 (revised September 2021), pursuant to section 7 of the Endangered Species Act.

4. Mitigation Requirements

- (a) TerraSond must use independent, dedicated, qualified PSOs, meaning that the PSOs must be employed by a third-party observer provider, must have no tasks other than to conduct observational effort, collect data, and communicate with and instruct relevant vessel crew with regard to the presence of protected species and mitigation requirements (including brief alerts regarding maritime hazards), and must be qualified pursuant to section 5(a) of this IHA.
- (b) The operator must establish and maintain clear lines of communication directly between PSOs on duty and crew controlling the acoustic source to ensure that mitigation commands are conveyed swiftly while allowing PSOs to maintain watch.
- (c) During survey operations involving use of the sparker (e.g., any day on which use of the sparker source is planned to occur, and whenever the sparker source is in the water, whether activated or not), a minimum of one PSO must be on duty and conducting visual observations at all times during daylight hours (i.e., from 30 minutes prior to sunrise through 30 minutes following sunset), and a minimum of two PSOs must be on duty and conducting visual observations at all times during nighttime hours.
- (d) Visual monitoring must begin no less than 30 minutes prior to ramp-up and must continue until 30 minutes after use of specified acoustic source ceases.
- (e) Visual PSOs shall conduct visual observations from the most appropriate observation posts using appropriate equipment and the naked eye while free from distractions and in a consistent, systematic, and diligent manner. When two PSOs are required, the PSOs must coordinate to ensure 360° visual coverage around the vessel.
- (f) Any observations of marine mammals by crew members aboard any vessel associated with the survey must be relayed to the PSO team.
- (g) PSOs may be on watch for a maximum of four consecutive hours followed by a break of at least one hour between watches, and may conduct a maximum of 12 hours of observation per 24-hour period.
- (h) PSOs shall establish and monitor applicable shutdown zones during use of the sparker source (see below). These zones shall be based upon the radial distance from the acoustic source (rather than being based around the vessel itself).
- (i) Shutdown zones must be as follows:
 - (i) A 500-meter (m) shutdown zone for North Atlantic right whales (NARW).

- (ii) A 100-m shutdown zone for all other marine mammals (excluding NARWs).
- (j) Pre-start clearance and ramp-up: A ramp-up procedure, involving a gradual increase in source level output, is required at all times as part of the activation of the acoustic source when technically feasible. Operators must ramp up sources to half power for 5 minutes and then proceed to full power. A 30-minute pre-start clearance observation period must occur prior to the start of ramp-up. All operators must adhere to the follow pre-start clearance and ramp-up requirements:
- (i) The operator must notify a designated PSO of the planned start of ramp-up as agreed upon with the lead PSO; the notification time must not be less than 60 minutes prior to the planned ramp-up in order to allow the PSOs time to monitor the shutdown zones for 30 minutes prior to the initiation of ramp-up (pre-start clearance). During this 30 minute pre-start clearance period, the entire applicable shutdown zone must be visible, except as indicated below.
 - (ii) Ramp-ups must be scheduled so as to minimize the time spent with the source activated.
 - (iii) A visual PSO conducting pre-start clearance operations must be notified immediately prior to initiating ramp-up procedures and the operator must receive confirmation from the PSO that the shutdown zone is clear prior to proceeding.
 - (iv) Any PSO on duty has the authority to delay the start of survey operations if a marine mammal is detected within the applicable pre-start clearance zone.
 - (v) Ramp-up may not be initiated if any marine mammal is within the applicable shutdown zone. If a marine mammal is observed within the applicable shutdown zone during the 30-minute pre-start clearance period, ramp-up may not begin until the animal(s) has been observed exiting the zones or until an additional time period has elapsed with no further sightings (30 minutes for all baleen whale species and sperm whales, and 15 minutes for all other species).
 - A. The pre-start clearance requirement is waived for small delphinids (individual belonging to the following genera of the Family Delphinidae: *Steno*, *Delphinus*, *Lagenorhynchus*, *Stenella*, and *Tursiops*), and pinnipeds. Detection of a small delphinid or pinniped within the shutdown zone does not preclude beginning of ramp-up, unless the PSO confirms the individual to be of a genus other than those listed, in which case normal pre-clearance requirements apply.

- B. If there is uncertainty regarding identification of a marine mammal species (*i.e.*, whether the observed marine mammal belongs to one of the delphinid genera for which shutdown is waived or one of the species with a larger shutdown zone), PSOs must use best professional judgement in making the decision to call for a shutdown.
- (vi) PSOs must monitor must monitor the shutdown zone 30 minutes before and during ramp-up, and ramp-up must cease and the source must be shut down upon observation of a marine mammal within the applicable shutdown zone.
 - (vii) Ramp-ups may occur at times of poor visibility, including nighttime, if appropriate visual monitoring has occurred with no detections of marine mammals in the 30 minutes prior to beginning ramp-up. Sparker activation may only occur at night where operational planning cannot reasonably avoid such circumstances.
 - (viii) If the acoustic source is shut down for brief periods (*i.e.*, less than 30 minutes) for reasons other than implementation of prescribed mitigation (*e.g.*, mechanical difficulty), it may be activated again without ramp-up if PSOs have maintained constant visual observation and no detections of marine mammals have occurred within the applicable shutdown zone. For any longer shutdown, pre-clearance observation and ramp-up are required.
- (k) Shutdown requirements
- (i) Any PSO on duty has the authority to call for a shutdown of the acoustic source if a marine mammal is detected in the applicable shutdown zone.
 - (ii) When the sparker source is active and the marine mammal appears within or enters the applicable shutdown zone, the acoustic source must be shutdown. When shutdown is instructed by a PSO, the acoustic source must be immediately deactivated and any dispute resolved following deactivation.
 - (iii) The shutdown requirement is waived for small delphinids (individuals belonging to the following genera of the Family Delphinidae: *Steno*, *Delphinus*, *Lagenorhynchus*, *Stenella*, and *Tursiops*) and pinnipeds. If a small delphinid or pinniped is visually detected within the shutdown zone, no shutdown is required unless the PSO confirms the individual to be of a genus other than those listed, in which case a shutdown is required.
- A. If there is uncertainty regarding identification of a marine mammal species (*i.e.*, whether the observed marine mammal belongs to one of the delphinid genera for which shutdown is waived or one of the species with a larger shutdown zone), PSOs must use best

professional judgement in making the decision to call for a shutdown.

- (iv) Upon implementation of a shutdown, the source may be reactivated after the marine mammal has been observed exiting the applicable shutdown zone or following a clearance period (30 minutes for all baleen whale species and sperm whales and 15 minutes for all other species) with no further detection of the marine mammal.
 - (v) Shutdown of acoustic sources is required upon observation of either a species for which incidental take is not authorized or a species for which incidental take has been authorized but the authorized number of takes has been met entering or within the Level B harassment zone.
- (1) Vessel Strike Avoidance- Vessel operators must comply with the below measures except under extraordinary circumstances when the safety of the vessel or crew is in doubt or the safety of life at sea is in question. These requirements do not apply in any case where compliance would 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.
- (i) Vessel operators and crew must maintain a vigilant watch for all marine mammals and slow down, stop their vessel, or alter course, as appropriate, and regardless of vessel size, to avoid striking marine mammals. A single marine mammal at the surface may indicate the presence of additional submerged animals in the vicinity of the vessel; therefore, precautionary measures should always be exercised. A visual observer aboard the vessel must monitor a vessel strike avoidance zone around the vessel (species-specific distances detailed below). Visual observers monitoring the vessel strike avoidance zone may be third-party observers (*i.e.*, PSOs) or crew members, but crew members responsible for these duties must be provided sufficient training to 1) distinguish a marine mammal from other phenomena and 2) broadly identify a marine mammal as a NARW, other whale (defined in this context as sperm whales or baleen whales other than right whales), or other marine mammals.
 - (ii) All vessels, regardless of size, must observe a 10-knot speed restriction in specific areas designated by NMFS for the protection of NARW from vessel strikes. These include all Seasonal Management Areas (SMAs) (when in effect) any Dynamic Management Areas (DMAs) (when in effect), and Slow Zones. See <https://www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-vessel-strikes-north-atlantic-right-whales> for specific detail regarding these areas. It is TerraSond's responsibility to maintain awareness of the establishment and location of any such areas and to abide by these requirements accordingly.

- (iii) Vessel speeds must be reduced to 10 knots or less when mother/calf pairs, pods, or large assemblages of cetaceans are observed near a vessel.
- (iv) All vessels must maintain a minimum separation distance of 500-m from NARWs. If a NARW is sighted within the relevant separation distance, the vessel must steer a course away at 10-knots or less until the 500-m separation distance has been established. If a whale is observed but cannot be confirmed as a right whale, the vessel operator must assume that it is a right whale and take appropriate action.
- (v) All vessels must maintain a minimum separation distance of 100-m from sperm whales and all other baleen whales.
- (vi) All vessels must, to the maximum extent practicable, attempt to maintain a minimum separation distance of 50-m from all other marine mammals, with an understanding that at times this may not be possible (*e.g.*, for animals that approach the vessel).
- (vii) When a marine mammal is sighted while a vessel is underway, the vessel must take action as necessary to avoid violating the relevant separation distance (*e.g.*, attempt to remain parallel to the animal's course, avoid excessive speed or abrupt changes in direction until the animal has left the area, reduce speed and shift the engine to neutral). This does not apply to any vessel towing gear or any vessel that is navigationally constrained.

5. Monitoring

- (a) TerraSond must submit PSO resumes for NMFS review and approval prior to commencement of the survey. Resumes should include dates of training and any prior NMFS approval, as well as dates and description of last experience, and must be accompanied by information documenting successful completion of an acceptable training course.
- (b) At least one PSO aboard each acoustic source vessel must have a minimum of 90 days at-sea experience working in the role, with no more than eighteen months elapsed since the conclusion of the at-sea experience. One PSO with such experience must be designated as the lead for the entire PSO team and serve as the primary point of contact for the vessel operator. (Note that the responsibility of coordinating duty schedules and roles may instead be assigned to a shore-based, third-party monitoring coordinator.) To the maximum extent practicable, the lead PSO must devise the duty schedule such that experienced PSOs are on duty with those PSOs with appropriate training but who have not yet gained relevant experience.
- (c) PSO qualifications:

- (i) PSOs must successfully complete relevant training, including completion of all required coursework and passing (80 percent or greater) a written and/or oral examination developed for the training.
 - (ii) PSOs must have successfully attained a bachelor's degree from an accredited college or university with a major in one of the natural sciences, 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 experience. Requests for such a waiver must be submitted to NMFS and must include written justification. Alternate experience that may be considered includes, but is not limited to, (1) secondary education and/or experience comparable to PSO duties; (2) previous work experience conducting academic, commercial, or government sponsored marine mammal surveys; and (3) previous work experience as a PSO (PSO must be in good standing and demonstrate good performance of PSO duties).
- (d) *Equipment.* TerraSond must work with the selected third-party PSO provider to ensure PSOs have all equipment (including backup equipment) needed to adequately perform necessary tasks, including accurate determination of distance and bearing to observed marine mammals, and to ensure that PSOs are capable of calibrating equipment as necessary for accurate distance estimates and species identification. Such equipment, at a minimum, must include:
- (i) At least one thermal (infrared) imaging device suited for the marine environment;
 - (ii) Reticle binoculars (*e.g.*, 7x50) of appropriate quality (at least one per PSO, plus backups);
 - (iii) Global positioning units (GPS) (at least one plus backups);
 - (iv) Digital cameras with a telephoto lens that is at least 300 mm or equivalent on a full-frame single lens reflex (SLR) (at least one plus backups). The camera or lens must also have an image stabilization system;
 - (v) Compass (at least one plus backups);
 - (vi) Means of communication among vessel crew and PSOs; and
 - (vii) Any other tools deemed necessary to adequately and effectively perform PSO tasks.
- (e) Equipment specified in (i) through (vii) above may be provided by an individual PSO, the third-party PSO provider, or the operator, but TerraSond is responsible for ensuring PSOs have the proper equipment required to perform the duties specified within this IHA.

- (f) During good conditions (*e.g.*, daylight hours; Beaufort sea state 3 or less), PSOs must conduct observations when the acoustic source is not operating for comparison of sighting rates and behavior with and without use of the specified acoustic sources and between acquisition periods, to the maximum extent practicable.
- (g) Members of the PSO team shall consult the NMFS NARW reporting system and Whale Alert, daily and as able, for the presence of NARWs throughout survey operations.

6. Reporting

- (a) TerraSond must submit a draft summary report to NMFS on all activities and monitoring results within 90 days of the completion of the survey activities or expiration of the IHA, whichever comes sooner, and must include all information described below under section 6(c) of this IHA.
- (b) The report must describe all activities conducted and sightings of marine mammals, must provide full documentation methods, results, and interpretation pertaining to all monitoring, and must summarize the dates and locations of survey operations and all marine mammal sightings (dates, times, locations, activities, associated survey activities). The draft report must also include geo-referenced, time-stamped vessel tracklines for all time periods during which acoustic sources were operating. Tracklines must include points recording any change in acoustic source status (*e.g.*, when the sources began operating, when they were turned off, or when they changed operational status such as from full array to single gun or vice versa). GIS files must be provided in ESRI shapefile format and include the UTC date and time, latitude in decimal degrees, and longitude in decimal degrees. All coordinates must be referenced to the WGS84 geographic coordinate system. In addition to the report, all raw observational data must be made available. A final report must be submitted within 30 days following resolution of any comments on the draft report. All draft and final marine mammal monitoring reports must be submitted to *PR.ITP.MonitoringReports@noaa.gov* and *nmfs.gar.incidental_take@noaa.gov*.
- (c) PSOs must use standardized electronic data forms to record data. PSOs must record detailed information about any implementation of mitigation requirements, including the distance of marine mammal to the acoustic source and description of specific actions that ensued, the behavior of the animal(s), any observed changes in behavior before and after implementation of mitigation, and if shutdown was implemented, the length of time before any subsequent ramp-up of the acoustic source. If required mitigation was not implemented, PSOs must record a description of the circumstances. At a minimum, the following information must be recorded:
 - (i) Vessel name (source vessel and other vessels associated with survey), vessel size and type, maximum speed capability of vessel;

- (ii) Dates of departures and returns to port with port name;
 - (iii) PSO names and affiliations;
 - (iv) Date and participants of PSO briefings;
 - (v) Visual monitoring equipment used;
 - (vi) PSO location on vessel and height of observation location above water surface;
 - (vii) Date and times (Greenwich Mean Time) of survey on/off effort times corresponding with PSO on/off effort;
 - (viii) Vessel location (decimal degrees) when survey effort begins and ends and vessel location at beginning and end of visual PSO duty shifts;
 - (ix) Vessel location at 30-second intervals if obtainable from data collection software, otherwise at practical regular interval;
 - (x) Vessel heading and speed at beginning and end of visual PSO duty shifts and upon any change;
 - (xi) Water depth (if obtainable from data collection software);
 - (xii) Environmental conditions while on visual survey (at beginning and end of PSO shift and whenever conditions change significantly), including BSS and any other relevant weather conditions including cloud cover, fog, sun glare, and overall visibility to the horizon;
 - (xiii) Factors that may contribute to impaired observations during each PSO shift change or as needed as environmental conditions change (*e.g.*, vessel traffic, equipment malfunctions); and
 - (xiv) Survey activity information (and changes thereof), such as acoustic source power output while in operation, tow depth of an acoustic source, and any other notes of significance (*i.e.*, pre-start clearance, ramp-up, testing, shutdown, ramp-up completion, end of operations, streamers, etc.).
- (d) Upon visual information of any marine mammal, the following information must be recorded:
1. Watch status (sighting made by PSO on/off effort, opportunistic, crew, alternate vessel/platform);
 2. Vessel/survey activity at time of sighting (*e.g.*, deploying, recovering, testing, shooting, data acquisition, other);
 3. PSO who sighted the animal;

4. Time of sighting;
5. Initial detection method;
6. Sightings cue;
7. Vessel location at time of sighting (decimal degrees);
8. Direction of vessel's travel (compass direction);
9. Speed of the vessel(s) from which the observation was made;
10. Identification of the animal (*e.g.*, genus/species, lowest possible taxonomic level or unidentified); also note the composition of the group if there is a mix of species;
11. Species reliability (an indicator of confidence in identification);
12. Estimated distance to the animal and method of estimating distance;
13. Estimated number of animals (high/low/best);
14. Estimated number of animals by cohort (adults, yearlings, juveniles, calves, group composition, etc.);
15. Description (as many distinguishing features as possible of each individual seen, including length, shape, color, pattern, scars, or markings, shape and size of dorsal fin, shape of head, and blow characteristics);
16. Detailed behavior observations (*e.g.*, number of blows/breaths, number of surfaces, breaching, spyhopping, diving, feeding, traveling; as explicit and detailed as possible; note any observed changes in behavior before and after point of closest approach);
17. Mitigation actions; description of any actions implemented in response to the sighting (*e.g.*, delays, shutdowns, ramp-up, speed or course alteration, etc.) and time and location of the action;
18. Equipment operating during each sighting;
19. Animal's closest point of approach and/or closest distance from the center point of the acoustic source; and
20. Description of any actions implemented in response to the sighting (*e.g.*, delays, shutdown, ramp-up) and time and location of the action.

- (e) Reporting sightings of NARWs:
- (i) If a NARW is observed at any time by PSOs or personnel on a survey vessel, during surveys or during vessel transit, TerraSond must immediately report the sighting information to the NMFS North Atlantic Right Whale Sighting Advisory System (877) 942-5343 within two hours of occurrence, when practicable, or no later than 24 hours after occurrence.
 - (ii) NARW sightings in any location may also be reported to the U.S. Coast Guard via Channel 16 and through the Whale Alert app (www.whalealert.org).
- (f) Reporting injured or dead marine mammals:
- (i) Sightings of any injured or dead marine mammal must be reported to NMFS, regardless of the cause of injury or death. In the event that personnel involved in the survey activities discover an injured or dead marine mammal, TerraSond must report the incident to NMFS as soon as feasible by phone (877-942-5343) and by email (nmfs.gar.stranding@noaa.gov and PR.ITP.MonitoringReports@noaa.gov) as soon as feasible. The report must include the following information:
 - 1. Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
 - 2. Species identification (if known) or description of the animal(s) involved;
 - 3. Condition of the animal(s) (including carcass condition if the animal is dead);
 - 4. Observed behaviors of the animal(s), if alive;
 - 5. If available, photographs or video footage of the animal(s); and
 - 6. General circumstances under which the animal was discovered.
 - (ii) In the event of a ship strike of a marine mammal by any vessel involved in the activities covered by the authorization, TerraSond shall report the incident to NMFS by phone at 877-942-5343 and by email (nmfs.gar.stranding@noaa.gov and PR.ITP.MonitoringReports@noaa.gov) as soon as feasible. The report must include the following information:

1. Time, date, and location (latitude/longitude) of the incident;
2. Species identification (if known) or description of the animal(s) involved;
3. Vessel's speed during and leading up to the incident;
4. Vessel's course/heading and what operations were being conducted (if applicable);
5. Status of all sound sources in use;
6. 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;
7. Environmental conditions (*e.g.*, wind speed and direction, Beaufort sea state, cloud cover, visibility) immediately preceding the strike;
8. Estimated size and length of animal that was struck;
9. Description of the behavior of the marine mammal immediately preceding and following the strike;
10. If available, description of the presence and behavior of any other marine mammals immediately preceding the strike;
11. 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
12. To the extent practicable, photographs or video footage of the animal(s).

7. This Authorization may be modified, suspended or revoked if the holder fails to abide by the conditions prescribed herein (including, but not limited to, failure to comply with monitoring or reporting requirements), or if NMFS determines: (1) the authorized taking is likely to have or is having more than a negligible impact on the species or stocks of affected marine mammals or (2) the prescribed measures are likely not or are not effecting the least practicable adverse impact on the affected species or stocks and their habitat.

8. Renewals

On a case-by-case basis, NMFS may issue a one-time, one-year Renewal IHA following notice to the public providing an additional 15 days for public comments when (1) up to another year of identical, or nearly identical, activities are planned or (2) the specified

activities would not be completed by the time this IHA expires and a Renewal would allow for completion of the activities, provided all of the following conditions are met:

- (a) A request for renewal is received no later than 60 days prior to the needed Renewal IHA effective date (the Renewal IHA expiration date cannot extend beyond one year from expiration of this IHA).
- (b) The request for renewal must include the following:
 - (i) An explanation that the activities to be conducted under the requested Renewal IHA are identical to the activities analyzed for this IHA, are a subset of the activities, or include changes so minor (e.g., reduction in pile size) that the changes do not affect the previous analyses, mitigation and monitoring requirements, or take estimates (with the exception of reducing the type or amount of take).
 - (ii) A preliminary monitoring report showing the results of the required monitoring to date and an explanation showing that the monitoring results do not indicate impacts of a scale or nature not previously analyzed or authorized.
- (c) Upon review of the request for Renewal, the status of the affected species or stocks, and any other pertinent information, NMFS determines that there are no more than minor changes in the activities, the mitigation and monitoring measures will remain the same and appropriate, and the findings made in support of this IHA remain valid.

Kimberly Damon-Randall,
Director, Office of Protected Resources,
National Marine Fisheries Service.

Date

Table 1. Authorized take by Level B Harassment

Taxonomic Group	Common Name	Scientific Name	Stock	ESA-listed ?	Marine mammal category as it applies to mitigation requirements in the IHA	Authorized Take by Level B Harassment
Cetacean (mysticete)	North Atlantic Right Whale	<i>Eubalaena glacialis</i>	Western Atlantic	Y	North Atlantic right whale	3
	Fin Whale	<i>Balaenoptera physalus</i>	Western Atlantic	Y	Large Whale	2
	Humpback Whale	<i>Megaptera noveangliae</i>	Gulf of Maine	N	Large Whale	2
Cetacean (odontocete)	Sperm Whale	<i>Physeter macrocephalus</i>	North Atlantic	Y	Large Whale	1
	Pilot Whale	<i>Globicephala melas/ macrorhynchus</i>	Western North Atlantic	N	Large Odontocete	26
	Cuvier's Beaked Whale	<i>Ziphius cavirostris</i>	Western North Atlantic	N	Large Odontocete	3
	Mesoplodont Beaked Whale	<i>Mesoplodon Spp.</i>	Western North Atlantic	N	Large Odontocete	3
	Bottlenose Dolphin	<i>Tursiops truncatus</i>	Western North Atlantic Offshore/ Southern Migratory Coastal	N	Small Odontocete	669
	Common Dolphin	<i>Delphinus delphis</i>	Western North Atlantic	N	Small Odontocete	49
	Atlantic Spotted Dolphin	<i>Stenella frontalis</i>	Western North Atlantic	N	Small Odontocete	628
	Rough-toothed Dolphin	<i>Steno bredanensis</i>	Western North Atlantic	N	Small Odontocete	19
Harbor Porpoise	<i>Phocoena phocoena</i>	Gulf of Maine/Bay of Fundy	N	Small Odontocete	3	
Pinniped (phocid)	Harbor Seal	<i>Phoca vitulina</i>	Western North Atlantic	N	Seal	2
	Gray Seal	<i>Halichoerus grypus</i>	Western North Atlantic	N	Seal	2

Table 2. Level B Harassment Zone

Authorized Marine Mammal Species	Level B Harassment Zone during Sparker Use
North Atlantic Right Whale	141 m
Fin Whale	
Humpback Whale	
Sperm Whale	
Pilot Whales	
Cuvier's Beaked Whale	
Mesoplodont Beaked Whales	
Bottlenose Dolphins	
Common Dolphin	
Atlantic Spotted Dolphin	
Rough-toothed Dolphin	
Harbor Porpoise	
Harbor Seal	
Gray Seal	

Table 3. Distance/times for Clearance, Shutdown, and Vessel Separation Zones

Authorized Marine Mammal Species	ESA-listed?	Pre-Clearance Zone		Vessel Separation Zone	Shutdown Zone	
		Distance (m)	Duration (minutes)	Distance (m)	Distance (m)	Duration (minutes)
North Atlantic Right Whale	Y	500	30	500	500	30
Fin Whale		100		100	100	
Sperm Whale		100		100	100	
Humpback Whale					100	

Pilot Whales	No	100		100	100	
Cuvier's Beaked Whale						
Mesoplodont Whales						
Harbor Porpoise				50	100	
Rough-toothed Dolphin					100	30
Gray Seal				50	Not required (see condition 4(f)(iv) in this IHA)	
Harbor Seal						
Bottlenose Dolphins						
Short-beaked Common Dolphin						
Atlantic Spotted Dolphin						

DRAFT