INCIDENTAL HARASSMENT AUTHORIZATION

The University of Texas at Austin (hereinafter, the Holder of the Authorization or Holder) 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 for one year from September 29, 2023 through September 28, 2024.

(2) This IHA authorizes take incidental to marine geophysical surveys, as specified in UT's IHA application, in coastal waters off of Texas.

(3) General Conditions

a. A copy of this IHA must be in the possession of the Holder, the vessel operator, other relevant personnel, the lead protected species observer (PSO), and any other relevant designees of the Holder 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 Level A harassment, 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. During use of the acoustic source, if any marine mammal species that are not listed in Table 1 appear within or enter the Level B harassment zone (Table 2), the airgun array must be shut down.

e. The Holder must instruct relevant vessel personnel with regard to the authority of the protected species monitoring team, and must ensure that relevant vessel personnel and the protected species monitoring team participate in a joint onboard briefing (PSO briefing), led by the vessel operator and lead PSO, prior to beginning survey activities to ensure that responsibilities, communication procedures, protected species monitoring protocols, safety and operational procedures, and IHA requirements are clearly understood. This PSO briefing must be repeated when relevant new personnel (*e.g.*, PSOs, acoustic source operator) join the survey operations before work involving these personnel commences.

f. The airgun (hereinafter, 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 shall be avoided. For use of airgun arrays,

notified operational capacity (not including redundant backup airguns) must not be exceeded during the survey, except where unavoidable for source testing and calibration purposes. All occasions where activated volume exceeds notified operational capacity must be communicated to the PSO(s) on duty and fully documented. The lead PSO must be granted access to relevant instrumentation documenting acoustic source power and/or operational volume.

(4) Mitigation Requirements

The Holder of this Authorization is required to implement the following mitigation measures:

a. Visual Monitoring

i. During survey operations (*e.g.*, any day on which use of the acoustic source is planned to occur, and whenever the acoustic source are in the water, whether activated or not), a minimum of two PSOs 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).

ii. Visual monitoring must begin no less than 30 minutes prior to ramp-up and must continue until one hour after use of the acoustic source ceases or until 30 minutes past sunset.

iii. Visual PSOs shall coordinate to ensure 360° visual coverage around the vessel from the most appropriate observation posts, and shall conduct visual observations using binoculars and the naked eye while free from distractions and in a consistent, systematic, and diligent manner.

iv. PSOs shall establish and monitor a pre-start clearance zone and, to the extent practicable, a Level B harassment zone (see Table 2). These zones shall be based upon the radial distance from the edges of the acoustic source (rather than being based on the center of the array or around the vessel itself).

v. The pre-start clearance zone is defined as follows: for all marine mammals listed in Table 1, the pre-start clearance zone encompasses the area at and below the sea surface out to a radius of 200 meters from the edges of the acoustic source. During pre-start clearance monitoring (i.e., before ramp-up begins), observations of any marine mammals within the pre-start clearance zone preclude acoustic source operations from beginning (i.e., ramp-up).

vi. Any observations of marine mammals by crew members shall be relayed to the PSO team.

vii. During good conditions (e.g., daylight hours; Beaufort sea state (BSS) 3 or less), visual PSOs shall conduct observations when the acoustic source is not operating

for comparison of sighting rates and behavior with and without use of the acoustic source and between acquisition periods, to the maximum extent practicable.

viii. Visual 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.

b. Pre-start clearance and Ramp-up

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 should not be less than 60 minutes prior to the planned ramp-up in order to allow the PSOs time to monitor the pre-start clearance zone for 30 minutes prior to the initiation of ramp-up (pre-start clearance). During this 30 minute pre-start clearance period the entire zone must be visible, except as indicated in 4(b)(vii) below.

ii. Ramp-ups shall be scheduled so as to minimize the time spent with the source activated.

iii. A visual PSO conducting pre-start clearance observations must be notified again immediately prior to initiating ramp-up procedures and the operator must receive confirmation from the PSO to proceed.

iv. Any PSO on duty has the authority to delay the start of survey operations if a marine mammal is detected within the pre-start clearance zone.

v. 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.

vi. A ramp-up procedure must be followed at all times as part of the activation of the acoustic source, except as described under 4(b)(xi).

vii. Ramp-up may not be initiated if any marine mammal is within the pre-start clearance zone. If a marine mammal is observed within the pre-start clearance 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 (15 minutes for small delphinids (dolphins belonging to the genera of *Steno*, *Stenella*, or *Tursiops*) and 30 minutes for all other species).

viii. Ramp-up must begin by activating the first airgun for 5 minutes and then adding the second airgun.

ix. Once ramp-up has begun, observations of marine mammals for which take authorization is granted (Table 1) within the clearance zone do not require shutdown.

x. Ramp-up 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. Acoustic source activation may only occur at night where operational planning cannot reasonably avoid such circumstances.

xi. 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), they may be activated again without ramp-up if PSOs have maintained constant visual observation and no detections of marine mammals have occurred within the clearance zone. For any longer shutdown, pre-start clearance observation and ramp-up are required.

xii. Testing of the acoustic source involving all elements requires ramp-up. Testing limited to individual source elements or strings does not require ramp-up but does require a 30-minute pre-start clearance period.

c. Shutdown

i. Shutdown of the array is required upon observation of a species for which authorization has not been granted, or a species for which authorization has been granted but the authorized number of takes has been met, approaching or observed within any harassment zone (Table 2).

d. Vessel strike avoidance

i. Crew and supply vessel personnel should use an appropriate reference guide that includes identifying information on all marine mammals that may be encountered. 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.

ii. Vessel operators and crews 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 any marine mammals. A single marine mammal at the surface may indicate the presence of 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), to ensure the potential for strike is minimized. 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 marine mammals from other phenomena and 2) broadly to identify a marine mammal as a baleen whale, sperm whale, or other marine mammals.

iii. Vessel speeds must also 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 baleen whales. If a baleen whale 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 species other than a baleen whale, the vessel operator must assume that it is a baleen whale and take appropriate action.

v. All vessels must maintain a minimum separation distance of 100 m from sperm 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 marine mammals are sighted while a vessel is underway, the vessel shall 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 Requirements

Monitoring shall be conducted in accordance with the following requirements:

a. The Holder must use independent, dedicated, trained visual 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 marine mammals and mitigation requirements (including brief alerts regarding maritime hazards), and must have successfully completed an approved PSO training course for geophysical surveys.

b. PSO names must be provided to NMFS by the Holder for review and confirmation of their approval for specific roles prior to commencement of the survey[1]. For prospective PSOs not previously approved or for PSOs whose approval is not current, NMFS must review and approve PSO qualifications. Resumes should include information related to

[1] PSO-related inquiries should be directed to *nmfs.psoreview@noaa.gov*.

relevant education, experience, and training, including dates, duration, location, and description of prior PSO experience. Resumes must be accompanied by relevant documentation of successful completion of necessary training.

c. 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 program.

d. 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.

e. The educational requirements may be waived if the PSO has acquired the relevant skills through alternate experience. Requests for such a waiver shall be submitted to NMFS and must include written justification. Requests shall be granted or denied (with justification) by NMFS within one week of receipt of submitted information. Alternate experience that may be considered includes, but is not limited to:

    i. Secondary education and/or experience comparable to PSO duties;

    ii. Previous work experience conducting academic, commercial, or government-sponsored protected species surveys; or

    iii. Previous work experience as a PSO; the PSO should demonstrate good standing and consistently good performance of PSO duties.

f. At least one of the PSOs aboard the vessel must be unconditionally-approved[2]. One unconditionally-approved visual PSO shall be designated as the lead for the entire PSO team. This lead should typically be the PSO with the most experience, would coordinate duty schedules and roles for the PSO team[3], and serve as the primary point of contact for the vessel operator. To the maximum extent practicable, the duty schedule shall be planned such that unconditionally-approved PSOs are on duty with conditionally-approved PSOs.

g. The Holder must work with the selected third-party observer 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:

[2] NMFS may approve PSOs as conditional or unconditional. A conditionally-approved PSO may be one who is trained but has not yet attained the requisite tier- and region-specific experience. An unconditionally-approved PSO is one who has attained the necessary experience within the relevant region. For unconditional approval, the PSO must have a minimum of 90 days at sea performing the role (either visual or acoustic) at the particular Tier level (1-3), with the conclusion of the most recent relevant experience not more than 18 months previous.

[3] Responsibility for coordination of duty schedules and roles may be delegated, such as to a shore-based monitoring coordinator employed by the third-party observer provider.

i. At least one thermal (infrared) imaging device suited for the marine environment.

ii. Reticle binoculars (e.g., 7 x 50) of appropriate quality (at least one per PSO, plus backups).

iii. Global Positioning Unit (GPS) (at least one plus backup).

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 should also have an image stabilization system.

v. Equipment necessary for accurate measurement of distances to marine mammals.

vi. Compass (at least one plus backup)

vii. Means of communication among vessel crew and PSOs.

viii. Any other tools deemed necessary to adequately perform PSO tasks.

h. Data Collection

i. 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 mammals 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 should record a description of the circumstances.

ii. At a minimum, the following information must be recorded:

1. Vessel name, vessel size and type, maximum speed capability of vessel;

2. Dates (MM/DD/YYYY) of departures and returns to port with port name;

3. PSO names and affiliations, PSO ID (initials or other identifier);

4. Date (MM/DD/YYYY) and participants of PSO briefings (as discussed in 3(d));

5. Visual monitoring equipment used (description); PSO location on vessel and height (meters) of observation location above water surface;

6. Watch status (description);

7. Dates (MM/DD/YYYY) and times (Greenwich Mean Time/UTC) of survey on/off effort and times (GMC/UTC) corresponding with PSO on/off effort;

8. Vessel location (decimal degrees) when survey effort began and ended and vessel location at beginning and end of visual PSO duty shifts;

9. Vessel location (decimal degrees) at 30-second intervals if obtainable from data collection software, otherwise at practical regular interval;

10. Vessel heading (compass heading) and speed (knots) at beginning and end of visual PSO duty shifts and upon any change;

11. Water depth (meters) (if obtainable from data collection software);

12. 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;

13. Factors that may have contributed to impaired observations during each PSO shift change or as needed as environmental conditions changed (description) (e.g., vessel traffic, equipment malfunctions); and

14. Vessel/Survey activity information (and changes thereof) (description), such as acoustic source power output while in operation, number and volume of acoustic sources, tow depth of the acoustic sources, and any other notes of significance (i.e., pre-start clearance, ramp-up, shutdown, testing, shooting, ramp-up completion, end of operations, streamers, etc.).

iii. Upon visual observation of any marine mammals, the following information must be recorded:

1. Sighting ID (numeric);

2. Watch status (sighting made by PSO on/off effort, opportunistic, crew, alternate vessel/platform);

3. Location of PSO/observer (description);

4. Vessel activity at the time of the sighting (e.g., deploying, recovering, testing, shooting, data acquisition, other);

5. PSO who sighted the animal/ID;

6. Time and date of sighting (GMT/UTC, MM/DD/YYYY);

7. Initial detection method (description);

8. Sighting cue (description);

9. Vessel location at time of sighting (decimal degrees);

10. Water depth (meters);

11. Direction of vessel's travel (compass direction);

12. Speed (knots) of the vessel from which the observation was made;

13. Direction of animal's travel relative to the vessel (description, compass heading);

14. Bearing to sighting (degrees);

15. Identification of the animal (e.g., genus/species, lowest possible taxonomic level, or unidentified) and the composition of the group if there is a mix of species;

16. Species reliability (an indicator of confidence in identification) (1 = unsure/possible, 2 = probable, 3 = definite/sure, 9 = unknown/not recorded);

17. Estimated distance to the animal (meters) and method of estimating distance;

18. Estimated number of animals (high/low/best) (numeric);

19. Estimated number of animals by cohort (adults, yearlings, juveniles, calves, group composition, etc.);

20. 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);

21. 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);

22. Animal's closest point of approach (meters) and/or closest distance from any element of the acoustic source;

23. Description of any actions implemented in response to the sighting (e.g., delays, shutdown, ramp-up) and time and location of the action.

24. Photos (Yes/No);

25. Photo Frame Numbers (List of numbers); and

26. Conditions at time of sighting (Visibility; Beaufort Sea State).

(6) Reporting Requirements

a. The Holder shall submit a draft comprehensive report on all activities and monitoring results within 90 days of the completion of the survey or expiration of the IHA, whichever comes sooner. The report must describe all activities conducted and sightings of marine mammals, must provide full documentation of 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 shall also include geo-referenced time-stamped vessel tracklines for all time periods during which acoustic sources were operating. Tracklines should 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 shall be provided in ESRI shapefile format and include the UTC date and time, latitude in decimal degrees, and longitude in decimal degrees. All coordinates shall be referenced to the WGS84 geographic coordinate system. In addition to the report, all raw observational data shall be made available. The report must summarize data collected as described above in *Data Collection*. A final report must be submitted within 30 days following resolution of any comments on the draft report.

b. Reporting injured or dead marine mammals:

i. Sighting of injured or dead marine mammal – In the event that personnel involved in the survey activities discover an injured or dead marine mammal, the Holder must report the incident to the Office of Protected Resources (OPR) (PR.ITP.MonitoringReports@noaa.gov), NMFS, and the NMFS Southeast Regional Stranding Coordinator (305-361-4586) 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. Vessel Strike – In the event of a vessel strike of a marine mammal by any vessel involved in the activities covered by this authorization, the Holder must report the incident to OPR, NMFS and the Southeast Regional Stranding Coordinator 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.

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

Date

Table 1. Numbers if Incidental Take of Marine Mammals Authorized

Species	Authorized Take by Level B Harassment
Atlantic spotted dolphin (*Stenella frontalis*)	26
Bottlenose dolphin (*Tursiops truncatus*)	2,676
Rough-toothed dolphin (*Steno bredanensis*)	28

Table 2. Level B Harassment Zones

Airgun Configuration	Water Depth (m)	Level B harassment zone (m)
Two 105 in^3 GI airguns, 210 in^3 total discharge	<100	1,750