



**Leading Light
Wind**

Invenergy energyRe

Comprehensive Protected Species Monitoring Report

BOEM Lease OCS-0542

High Resolution Geophysical Surveys July 31, 2023 - July 30, 2024



Prepared For:

Invenergy Wind Offshore, LLC

Submitted on: **October 28, 2024**

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Appendix A. LLW Geophysical Survey Protected Species Observations

Appendix B. LLW Geophysical Survey Entangled Protected Species Observation

List of Abbreviations

AIS	A.I.S. Inc.
BOEM	Bureau of Ocean Energy Management
PDCs and BMPs	BOEM Project Design Criteria and Best Management Practices for Protected Species Associated with Offshore Wind Data Collection
CPA	Closest Point of Approach
BSEE	Bureau of Safety and Environmental Enforcement
ECR	Export Cable Route
ESA	Endangered Species Act
Report	Final Protected Species Monitoring Report
HRG	High Resolution Geophysical
IHA	Incidental Harassment Authorization
IWO	Invenergy Wind Offshore LLC
IR	Infrared
Lease Area	OCS-A 0542 Lease Area
LLW	Leading Light Wind Project
NARW	North Atlantic right whale
NMFS	National Marine Fisheries Service
NOAA	National Oceanographic and Atmospheric Administration
NVD	Night Vision Device
PSO	Protected Species Observer
Tetra Tech	Tetra Tech Inc.
TI	Thermal Imaging

Confidential and Proprietary Information

The information summarized in this Final Report was collected for Invenergy Wind Offshore LLC in support of offshore renewable lease area OCS-A 9542 and is distributed to the National Oceanic and Atmospheric Administration's National Marine Fisheries Service as required by the Incidental Harassment Authorization granted to Invenergy Wind Offshore LLC on July 19, 2023.

1.0 Executive Summary

This Final Protected Species Monitoring Report (Report) is submitted to the National Oceanic and Atmospheric Administration’s (NOAA) National Marine Fisheries Service (NMFS) on behalf of Invenergy Wind Offshore LLC’s Leading Light Wind Project (LLW or the Project). This Report has been prepared in accordance with the final reporting requirements in the Project’s Incidental Harassment Authorization (IHA) (IHA; 88 fr 47846) issued by NMFS. The IHA covers LLW’s High Resolution Geophysical (HRG) survey activities that took place during the effective dates of July 31, 2023, and July 30, 2024. This Report summarizes LLW’s offshore HRG survey activities, associated detections of protected species made by Protected Species Observers (PSOs), and mitigation actions. All data collected by LLW PSOs during the HRG campaigns are attached to this Report as a Microsoft Excel (.xlsx) file. These data include additional details beyond what is summarized in the body of the Report.

The LLW HRG surveys were monitored by NMFS-approved PSOs in accordance with the IHA (IHA; 88 fr 47846), Bureau of Ocean Energy Management (BOEM) *Project Design Criteria and Best Management Practices for Protected Species Associated with Offshore Wind Data Collection* (November 22, 2021) (PDCs and BMPs), and LLW Offshore Surveys PSO Compliance Manual¹. LLW contracted Tetra Tech Inc. (Tetra Tech) and A.I.S. Inc. (AIS) to provide PSO support during survey operations.

There were two separate HRG survey campaigns conducted during the IHA effective dates. Survey operations were conducted aboard the *GO Explorer* and *GO Pursuit* over the course of 208 calendar days, between August 2, and December 2, 2023, and February 19 and July 30, 2024, respectively. Due to the potential for harassment of listed and protected marine species as a result of HRG survey activities, Teams of either three or five PSOs were deployed on the survey vessels to monitor operations using regulated HRG sources (see Section 3.2 for more information).

There were 405 protected species sightings during the survey campaigns representing an estimated 1,840 individual animals (most occurred during favorable environmental conditions); 76 detections that triggered shutdown mitigation actions were primarily due to sea turtle sightings; 50 detections of dolphins encroached within the 141 Level B Harassment Zone and met the criteria of takes; 20 sea turtle detections triggered delays to operational start-up; 49 sightings required vessel strike avoidance mitigation. All mitigation, delay, and vessel strike avoidance mitigation requests were enacted as soon as they were requested by the PSO team. While there was one entangled short beaked common dolphin observed during the project surveys; there were no other injured, entangled, or dead protected species observed for the duration.

Table 1 – HRG Survey Campaign Overview

Client	Invenergy Wind Offshore LLC
Lease Area	OCS-A 0542
Project	Leading Light Wind
Survey Area	Lease Area and Potential Export Cable Routes, Offshore New Jersey
Survey Vessel: Survey Date	<i>GO Explorer</i> : August 2, 2023 – December 2, 2023 <i>GO Pursuit</i> : February 19, 2024 – July 30, 2024
HRG Survey Contractor	Fugro USA Marine Inc.
Vessel Contractor	Guice Offshore LLC
Protected Species Observer Contractors	Tetra Tech Inc. (formally RPS Inc.) A.I.S. Inc.

¹ This document is an internal resource created by LLW and provided to PSO teams to be used as a reference. The most current revision is dated May 23, 2024.

2.0 Introduction

This *Final Protected Species Monitoring Report* summarizes offshore HRG survey activities, associated detections of protected species made by PSOs, and mitigation actions between July 31, 2023, and July 30, 2024. This Report is submitted to the NOAA's NMFS on behalf of the LLW Project. This Report has been prepared in accordance with the final reporting requirements in the Project's IHA (IHA; 88 fr 47846) issued by NMFS.

The issued IHA outlines the monitoring, mitigation, and reporting requirements for sighting marine protected species, with additional requirements for reporting sightings of North Atlantic right whales (NARW), *Eubalaena glacialis*. NMFS categorizes "takes" under its IHA program according to two levels, Level A and Level B, based on the nature of the harassment caused by activities affecting marine mammals. Level A refers to injurious harassment and involves the potential to cause auditory or physical injury to marine mammals resulting in severe effects due to high noise levels. Level B refers to behavioral harassment and involves potential for behavioral changes (e.g., disruption in activities like migration or feeding) without physical harm, caused by less intense noise levels or disturbances². While no Level A takes were anticipated or authorized for LLW's HRG surveys, some Level B takes were allocated. BOEM's PDCs and BMPs were applied for sea turtle and manta ray mitigation actions since the IHA does not provide protection requirements for these non-marine mammal endangered species.

The LLW HRG surveys were monitored by NMFS-approved PSOs in accordance with the IHA (IHA; 88 fr 47846), BOEM PDCs and BMPs (November 22, 2021), and LLW Offshore Surveys PSO Compliance Manual¹. Monitoring of the species-specific pre-start clearance zone around anticipated sound production, known as pre-start clearance, as well as ramp up from silent to data acquisition levels was required prior to the initiation of regulated HRG sources. During data acquisition a shutdown zone around regulated HRG sources was monitored by the PSO team. If a protected species entered or surfaced within the shutdown zone, a shutdown of regulated HRG sources was required. Per the NMFS IHA, the only piece of HRG equipment used in these surveys with the potential to cause auditory or physical injury to marine mammals was the sparker³. This piece of gear is henceforth referred to the regulated HRG source if it is not called by name (i.e., sparker). To comply with these requirements, LLW contracted Tetra Tech and AIS to provide PSO support during survey operations. All data collected by LLW PSOs during the HRG campaigns are attached to this Report as a Microsoft Excel (.xlsx) file. This data includes additional details beyond what is summarized in the body of the Report.

3.0 LLW Protected Species Program

LLW's PSO monitoring and mitigation program was designed to minimize potential impacts of sound produced by HRG survey activities on protected species. These measures were implemented in accordance with the Project's IHA, BOEM's PDCs and BMPs, and specific Project requirements. The training, observation methods, and mitigation actions associated with these activities are outlined below.

² NOAA Fisheries Office of Protected Resources. 2024. Incidental Take Authorizations Under the Marine Mammal Protection Act. Accessed from: <https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act>

³ A sparker is a shallow penetration seafloor sub bottom profiler utilized for offshore wind development site investigation.

3.1 NMFS Approval

In accordance with IHA permit condition 5(a), prior to each HRG survey mobilization, the Project submitted a PSO approval request to NMFS (nmfs.psoreview@noaa.gov), and copied BOEM (renewable_reporting@boem.gov), and the Bureau of Safety and Environmental Enforcement (BSEE) (protectedspecies@bsee.gov). The PSO approval request included a list of the PSOs, status of their NMFS approval, training dates, dates and descriptions of most recent deployment, resumes, and training certification. All PSOs that worked on the Project were granted project specific approval from NMFS prior to start-up.

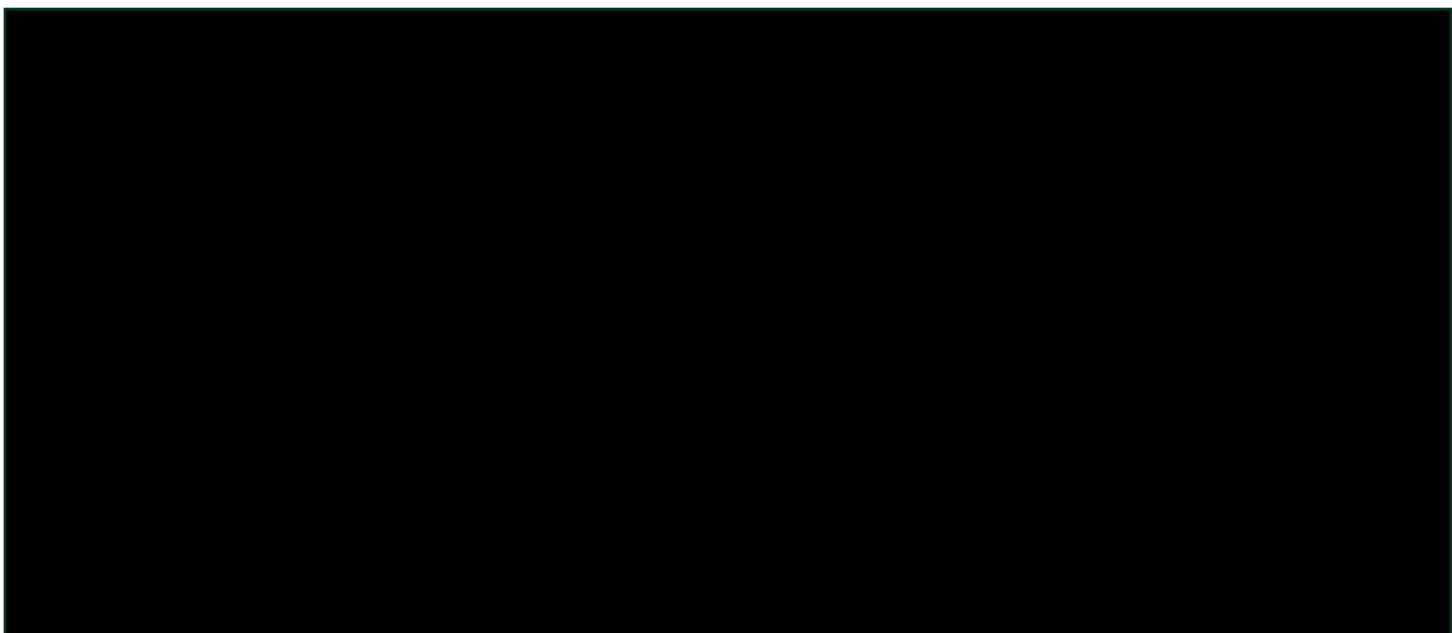
3.2 Protected Species Observer Training and Compliance

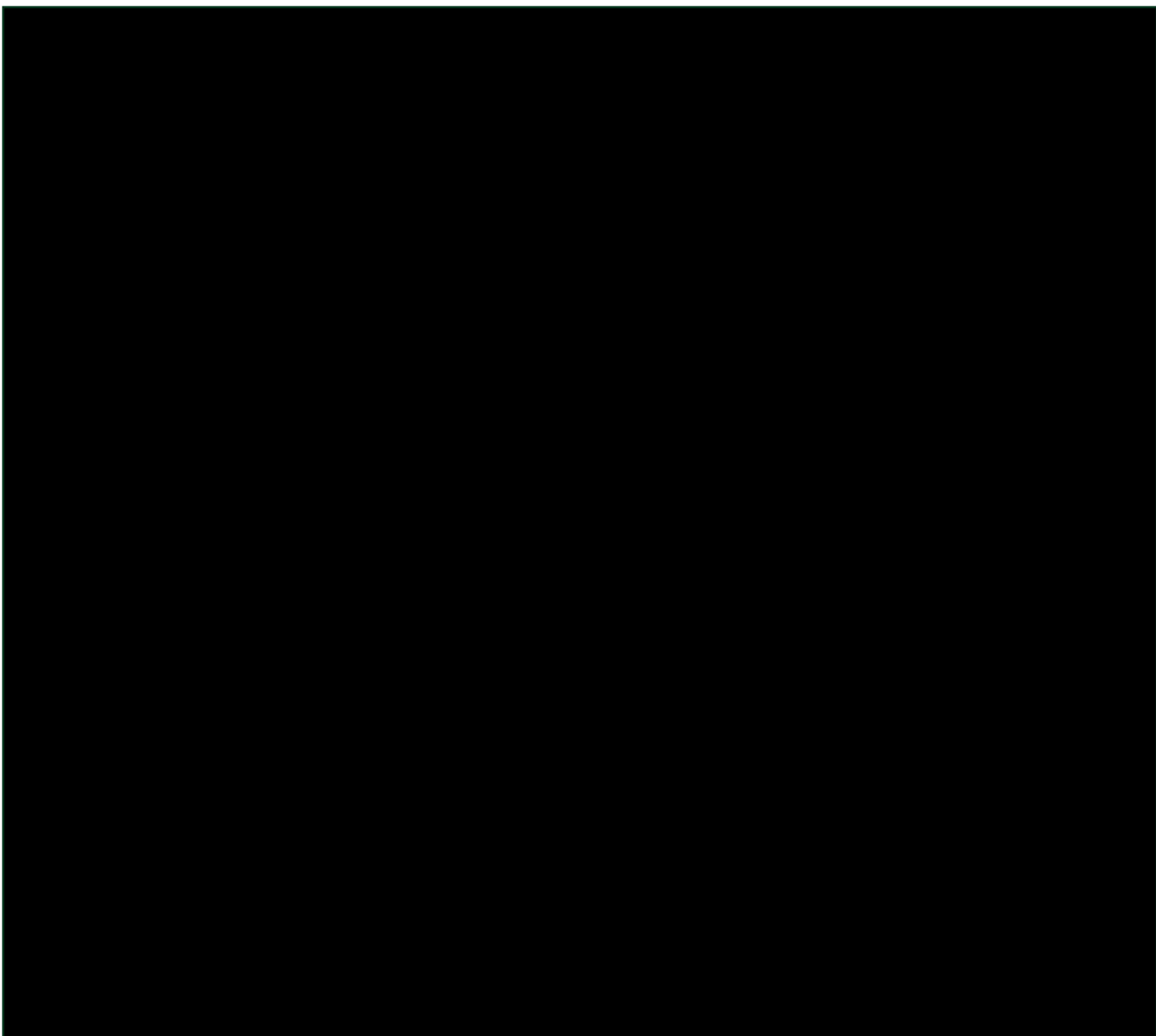
Teams of three or five NMFS-approved PSOs were stationed onboard the *GO Explorer* and *GO Pursuit*. Tetra Tech provided the monitoring teams aboard the *GO Explorer* and AIS provided the monitoring teams aboard the *GO Pursuit* during HRG survey operations. Both vessels operated along the potential LLW export cable routes (ECRs) and within the Project’s Lease Area OCS-A 0542 (Lease Area). All PSOs attended a dedicated LLW Environmental Compliance Training course prior to survey mobilization. The training involved a detailed review of the following:

- Regulations, permits and plans relevant to the Project
- Environmental compliance requirements and tools
- PSO requirements and scheduling
- Listed and protected species types, mitigation methods, and vessel strike avoidance measures
- Protected species identification
- Use and maintenance of PSO equipment
- Communication protocol
- Data forms and reporting
- Health and safety requirements

PSO names, offshore position, qualifications, and training dates are included below in **Table 2**.

Table 2 - PSO Qualifications





3.3 Monitoring Methods and Equipment

PSO teams deployed on HRG survey vessels undertook scheduled monitoring shift rotations. While some shifts overlapped, PSO time on shift always adhered to regulatory limits. In accordance with regulatory requirements, for HRG surveys using regulated sources, at least one PSO maintained a 360° visual watch of the shutdown zone during daylight hours. During nighttime operations, two visual observers conducted concurrent 360° watch with the aid of alternative monitoring technologies including handheld thermal imaging and night vision devices. When HRG surveying was underway but no regulated sound sources were used, the number of PSOs on watch at night was reduced to one. PSO duties included:

- Working in shifts to ensure that each individual does not exceed four consecutive hours of watch followed by a minimum of a one-hour break and working no more than 12 hours per 24-hour period.
- Maintaining vigilant watch for marine protected species and communicating any sightings in the forward path of the vessel during all vessel transits, ensuring strike avoidance measures were met.
- Visually monitoring the pre-start clearance and shutdown zones 360° around the sound source during survey operations for the presence of marine protected species including marine mammals, sea turtles, and Endangered Species Act (ESA) listed fishes.
- Documenting all marine protected species sightings, observer effort, and environmental conditions on standardized data forms and reporting all incidents to proper personnel.
- Recording operational activities during monitoring efforts.
- Informing vessel and survey operators if a protected species is heading towards the shutdown zone.
- Calling for a delay or shutdown if a marine protected species is observed entering or surfaces within the shutdown zone.
- Advising operators on mitigation requirements in the event of marine protected species detections.
- Ensuring all mitigation actions (pre-start clearance, delay ramp-up, ramp-up and shutdown) are enacted.
- Summarizing daily monitoring effort and submitting data forms to the Project.

PSOs were equipped with a range of visual and alternative monitoring equipment and data collection equipment including the following:

- FLIR Scout III 640 (640x512) Thermal Imaging (TI) Monocular (or equivalent)
- AN PVS-14 Mono-Goggle, Gen 3 AGM-HS Hand Select Night Vision Device (NVD) (or equivalent)
- 8X50 Marine Reticle Binoculars with compass
- SLR Camera with 300mm Image Stabilized lens (or equivalent)
- Global Positioning Unit
- Very High Frequency (VHF) Radio

3.4 Protected Species Mitigation Measures

For HRG operations using regulated HRG sources, specifically sparkers, the following protected species mitigation measures derived from the NMFS IHA and the BOEM BMPs and PDCs were enforced:

- **Pre-Start Monitoring and Clearance Zones:** PSOs will establish and monitor pre-start clearance zones prior to the start of regulated survey operations, as follows:
 - 500 meters NARW, unidentified large whales, sea turtles and giant manta rays (*Mobula birostris*);
 - 100 meters ESA-listed whales, other whales, Risso’s dolphins (*Grampus griseus*), pilot whales (*Globicephala sp.*), harbor porpoises (*Phocoena phocoena*), and all other marine mammals⁴.
- **Pre-Start Clearance:** PSOs will implement a 30-minute pre-start clearance of the above listed zone by monitoring around the area prior to the start-up of any regulated HRG sources for the day. Additional periods of pre-start clearance will occur after pauses of 30-minutes or more (without continuous PSO monitoring) and after periods of inclement weather or other factors that cause the above listed zone and adjacent waters to be non-observable. During this period and based on time-of-day restrictions, the zone will be monitored by the relevant number of PSOs equipped with the appropriate visual monitoring technology. Regulated sound sources will not be activated if any protected species are observed within the pre-start clearance zone. If protected species are observed entering or within the established zone pre-start clearance prior to ramp-up of equipment, survey activities will be delayed and may not commence until either the animal(s) has voluntarily left and been visually confirmed as having moved

⁴ Please see next bullet for specific dolphin species exceptions to pre-start clearance.

beyond the pre-start clearance zone or an additional clearance period (30 minutes for whales, sea turtles, and manta rays and 15 minutes for all other nonexempt⁵ marine mammals) has elapsed without subsequent detection of the animal(s) within the pre-start clearance zone.

Pre-start clearance and monitoring is not required (i.e. these species are exempt) for Atlantic spotted dolphin (*Stenella frontalis*), Atlantic white-sided dolphin (*Lagenorhynchus acutus*), offshore and coastal stocks of bottlenose dolphins (*Tursiops truncatus*), short-beaked common dolphin (*Delphinus delphis*), gray seal (*Halichoerus grypus*), and harbor seal (*Phoca vitulina*).

- **Ramp-up/Soft Start Procedure:** Once the PSO team has confirmed completion of the pre-start clearance, operators may begin activation of sound source equipment (when technically feasible) at half power level for five minutes before increasing to full survey power.
- **Shutdown Zones:** PSOs will establish and monitor shutdown zones throughout regulated HRG operations, as follows:
 - 500 meters NARW and unidentified large whales;
 - 100 meters all other nonexempt marine mammal and sea turtle species (ESA-listed whales, other whales, Risso’s dolphins, pilot whales, harbor porpoises, sea turtles, and all other marine mammals).
- **Shutdowns:** In the event that a nonexempt protected species is sighted entering or observed within the applicable shutdown zone during regulated HRG survey operations, an immediate shutdown of regulated sound source equipment will be required. Regulated HRG survey activities will not resume until the animal(s) has been confirmed to have left the relevant shutdown zone or an additional clearance period (30 minutes for whales, 15 minutes for other marine mammals, and 2 minutes for sea turtles) has elapsed without subsequent detection of the animal(s). No Shutdown is required for small delphinids belonging to the following genera of the Family Delphinidae: (*Steno*, *Delphinus*, *Lagenorhynchus*, *Stenella*, and *Tursiops*) that are voluntarily approaching the vessel, nor for pinnipeds such as gray and harbor seals, until Level B take limits specified in the IHA (and explained below) are met. However, shutdown of acoustic sources for species of which incidental take is not authorized is required regardless of circumstance.
- **Level B Harassment⁶ Zone:** PSO will establish and monitor the Level B harassment zones prior to the start of regulated HRG operations, as follows:
 - 141 meter all marine mammals.
- **Level B Harassment Tracking:** Shutdown is not always required for Level B harassment. However, tracking of species exposure to elevated sound sources is required, thus protected species observations within the Level B harassment zone while the regulated HRG survey equipment is active will be noted and reported to the regulators⁷.

For HRG operations using regulated HRG sources, specifically sparkers, the following protected species mitigation measures derived from the NMFS IHA and the BOEM BMPs and PDCs were enforced:

⁵ Nonexempt species include all protected species listed within the IHA and the BOEM BMPs and PDCs as well as any other protected species that do not have takes allocated to them that come within the shutdown zone during active periods of regulated HRG surveying.

⁶ Level B harassment is defined by NOAA Fisheries as an act that has the “potential to disturb (but not injure) a marine mammal or marine mammal stock in the wild by disrupting behavioral patterns, including, but not limited to, migration, breathing, nursing, feeding or sheltering. IHA’s like the one granted for this project, specify numbers of allotted takes per species. Level B takes for this project are listed in Appendix A.

⁷ This Report fulfills that reporting requirement.

- **Vessel Strike Avoidance Separation Distances:** PSOs will ensure vessel separation distances⁸ are maintained during all vessel movements, as follows:
 - 500 meters ESA-listed whales [NARW, fin whale (*Balaenoptera physalus*), sei whale (*Balaenoptera borealis*), and sperm whale (*Physeter macrocephalus*)];
 - 200 meters non-ESA listed large whales⁹ (humpback or minke);
 - 100 meters sea turtles and manta rays;
 - 50 meters (as feasible) for all other marine mammals with a voluntary approach¹⁰ exception for small delphinoid cetaceans and phocids;
 - No specified distance for sturgeon.
- **Vessel Strike Avoidance:** PSOs will maintain a vigilant watch during vessel transits and all vessel movements to ensure vessel operators reach the destination safely and without causing harm to any protected species. All vessels will maintain a 10-knot speed restriction at all times¹¹. Per the IHA and BOEM PDCs and BMPs, it is a regulatory requirement to maintain speeds below 10 knots in areas designated by NMFS for the protection of NARW and when mother/calf pairs, pods, or large assemblages of cetaceans are observed in close proximity to survey vessels.

If any protected species are observed within the forward path of the vessel, best efforts will be made to adjust course to reestablish the required separation distance, or the vessel will shift into neutral or drift the vessel and wait for the animal(s) to reestablish the appropriate separation distance. If a NARW, other ESA-listed whale or non-ESA listed large whale surfaces within the relevant separation distance of an actively moving vessel, regardless of the vessel speed, the vessel must reduce speed and shift into neutral until the 500-meter separation distance can be reestablished. If sea turtles or giant manta rays are observed within the forward path of the vessel, it will slow to four knots until the animal(s) is outside the forward path. For work in areas where the bottom of the vessel is within four feet of the sea floor, vessel speeds will not exceed four knots to protect sturgeon.

- Vessel strike avoidance measures are waved and do not apply in cases “where compliance would create an imminent and serious threat to a person or vessel” or in instances that the vessel is restricted in its ability to maneuver and cannot physically comply with said measures.
- Vessel strike avoidance measures are waived and do not apply in cases where the following genera of dolphin (*Delphinus*, *Lagenorhynchus*, *Stenella*, and *Tursiops*) are confirmed by the PSOs to be actively and voluntarily approaching the vessel. If active, voluntary, approach cannot be confirmed, a 50-meter separation distance will be employed.

3.5 Protected Species Real Time Reporting Requirements

For HRG operations using regulated HRG sources, specifically sparkers, the following protected species mitigation measures derived from the NMFS IHA and the BOEM BMPs and PDCs were enforced:

- **Harassment, Harm, Injury, Entanglement and Observations of Dead Marine Protected Species:** PSOs will report, as soon as feasible, instances of harassment, harm, or injury to protected species as well as any entangled or dead protected species to LLW, NMFS via the NOAA stranding hotline (866-755-6622) and by email (to both nmfs.gar.incidentaltake@noaa.gov and PR.ITP.MonitoringReports@noaa.gov). Reports must also be sent to

⁸ Vessel separation distances are required distance that vessels must maintain between themselves and protected species.

⁹ To ensure clear guidance for PSO teams and maintain compliance with BOEM PDC 5.2.2, Invenergy opted for a consistent 200 m separation distance for all non-ESA-listed large whales.

¹⁰ Voluntary approach occurs when animals are actively approaching the vessel and not engaged in any other activities for example feeding.

¹¹ This is a voluntary client requirement for all vessels working on contract for IWO and LLW and is required to be upheld at all times.

BOEM at renewable_reporting@boem.gov, and BSEE at protectedspecies@bsee.gov. In addition, reports can be made to the Coast Guard via VHF Radio Channel 16 and through the WhaleAlert app (<http://www.whalealert.org/>).

- **Ship Strikes:** PSOs will immediately report, as soon as feasible, instances of survey vessels striking protected species to NMFS via the NOAA stranding hotline (866-755-6622) and by email to both nmfs.gar.incidental-take@noaa.gov and PR.ITP.MonitoringReports@noaa.gov.
- **NARW Observations:** PSOs will immediately report instances of NARW detections to NMFS via the NARW Sighting Advisory System phone line at 866-755-6622, to the Coast Guard via VHF Radio Channel 16 and through the WhaleAlert app (<http://www.whalealert.org/>).

4.0 Operational and PSO Effort Summary

LLW conducted two vessel-based HRG survey campaigns along the ECRs off the coast of New Jersey and within Lease Area between July 31, 2023, and July 30, 2024. A brief overview of operational activities, including vessel activities, the use of HRG sources, and PSO efforts, is provided below. A detailed timeline of all PSO effort and survey activities can be found in the Microsoft Excel file accompanying this Report.

4.1 Operational Activity Summary

Two vessels supported HRG survey operations, both operating 24 hours a day, under the LLW IHA. The *GO Explorer* worked out of a variety of ports throughout the Eastern seaboard including the following: Brooklyn, NY; Atlantic City, NJ; Staten Island, NY; and Wilmington, DE. The *GO Pursuit* primarily sailed in and out of Atlantic City, NJ with a single port call in Bayonne, NY. A vessel transit is defined as a single trip from port to the offshore operational location, or a single trip from the offshore operational location to port. Detailed LLW vessel transit data from the surveys is presented in **Table 3**. LLW HRG survey vessels completed 45 total transits (**Table 3**).

PSO teams were stationed aboard the Project vessels (**Figure 1**) to implement protected species monitoring and mitigation during all HRG survey operations (regulated and non-regulated), as well as to conduct vessel strike avoidance monitoring and mitigation during all vessel transits. PSOs were stationed at the bridge level of both vessels while monitoring, resulting in base heights above the water surface of 6.23 meters on the *GO Explorer* and 5.77 meters on the *GO Pursuit*. During extreme or otherwise dangerous inclement weather conditions PSOs were stationed inside the bridge to conduct their visual monitoring safely. More information on specific PSO watch locations and times of watch periods conducted from inside the vessels can be found in the Microsoft Excel file accompanying this Report.



Figure 1 – PSO Duty Locations (Left: *GO Pursuit*, Right: *GO Explorer*)

Table 3 – Vessel Transit Details for LLW Site Investigation Activities, 2023 and 2024.

Vessel Name	Period Vessel was Active	Vessel Type	Maximum Speed Capability	Number of Transits	Vessel Routes
GO Explorer	August 2, 2023 - December 2, 2023	170 class Mini Supply Vessel	11 knots	23	To/From ECRs, offshore operational area and various marinas listed above
GO Pursuit	February 19, 2024 – July 30, 2024	170 class Mini Supply Vessel	11 knots	22	To/From LLW ECRs, offshore operational area and either Atlantic City, NJ or Bayonne, NY

The only piece of regulated HRG survey equipment used during the surveys was a sparker (**Table 4**). The *GO Explorer* and the *GO Pursuit* conducted regulated HRG survey operations with a sparker along LLW ECRs and within the Lease Area for 75 days. During 2023, the *Go Explorer* actively acquired data with a sparker on August 2, 4-7, 10-21, 23-24, 26-28; September 3-11 and 17-22; October 4-6 and 11-12; and December 1-2. During 2024, the *GO Pursuit* actively acquired data with a sparker on February 25-27; March 1-9, 13-23, and 27-31; April 1; June 17; and July 17-29.

Table 4 – Regulated High Resolution Geophysical Equipment Utilized During LLW Site Investigation

Equipment	Model	Frequencies Used	Source Level	Vessel	Regulated Source
Source Unit	Sparker GeoMarine Sparker Geo-Source 400-tip 600-800J*	0.3-1.2 kHz	211 peak dB re 1 μPa @1m	<i>GO Explorer</i>	Yes
Source Unit	Geo-Spark 2 kj Ultra hi-resolution sparker system with 400-tip 400-600J	0.5-2 kHz	210-211 peak dB re 1 μPa @1m	<i>GO Pursuit</i>	Yes

*In its IHA application, Invenergy used specifications for the Applied Acoustics Dura-Spark from Crocker and Fratantonio (2016)¹², as this sparker is the closest match to the Geo-Marine sparker due to similarities in composition and operation. Both devices employ up to 400 electrode tips (Attachment 1 of the IHA application and Section 3.1.2.2 of Crocker and Fratantonio 2016). Table 10 in Crocker and Fratantonio (2016) provides the measured source levels for the Applied Acoustics Dura-spark with 400 electrode tips and settings for 500, 2,000, and 2,400 J. For a setting of up to 800 J Invenergy would use the corresponding source level values for 500 J provided in Table 10 of Crocker and Fratantonio (2016) as the closest proxy. Therefore, the distance to the level B threshold and resulting take estimates are consistent with that analyzed in the IHA application.

Figure 2 summarizes the amount of time spent on each operational activity. Required ramp-ups (half power for five minutes and then proceed to full power) of the sparker were conducted daily prior to usage and occurred for a total of nine hours and 31 minutes. The total duration of sparker activity for these surveys was 939 hours and 31 minutes. There were 20 PSO-

¹² Characteristics of Sounds Emitted During High-Resolution Marine Geophysical Surveys. 2016. Accessed from: <https://espis.boem.gov/final%20reports/5551.pdf>

initiated protected species detection delays to operational start-up implemented, and 76 shutdowns of the sparker called for by the PSO team and enacted by the vessel crew immediately. This is expanded upon in Section 5 below.

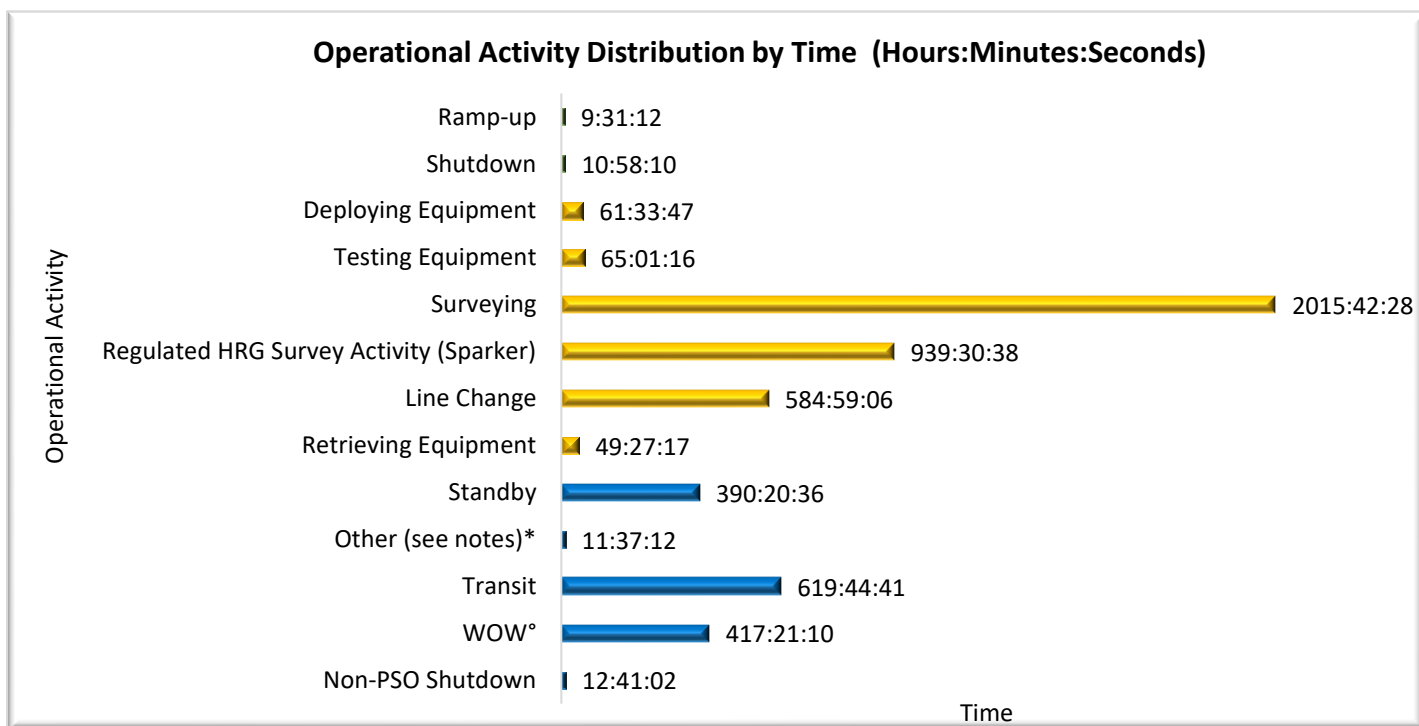


Figure 2 – Operational Activity Distribution by Time (hh:mm:ss)

Other* = pre-start clearance, troubleshooting equipment and delays to start-up of operations due to protected species and fixed gear fisheries observations
 WOW° = waiting on weather

4.2 Protected Species Observer Effort Summary

Figures 3 and 4 summarize the amount of time spent per monitoring activity while Figure 5 provides a summary of PSO effort by number of PSOs on duty. Pre-start clearance monitoring occurred 178 times for a total of 41 hours and 34 minutes and was implemented prior to all activations of regulated sound source equipment.

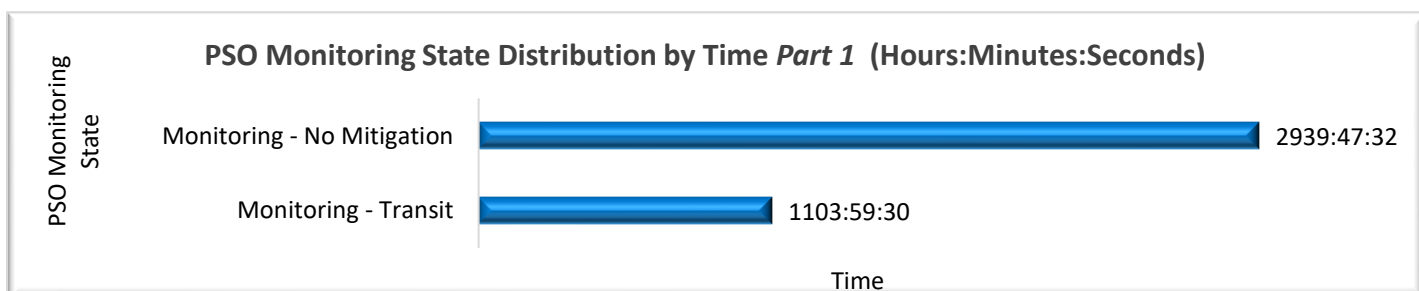


Figure 3 – Monitoring State Distribution by Time Part 1 (hh:mm:ss)

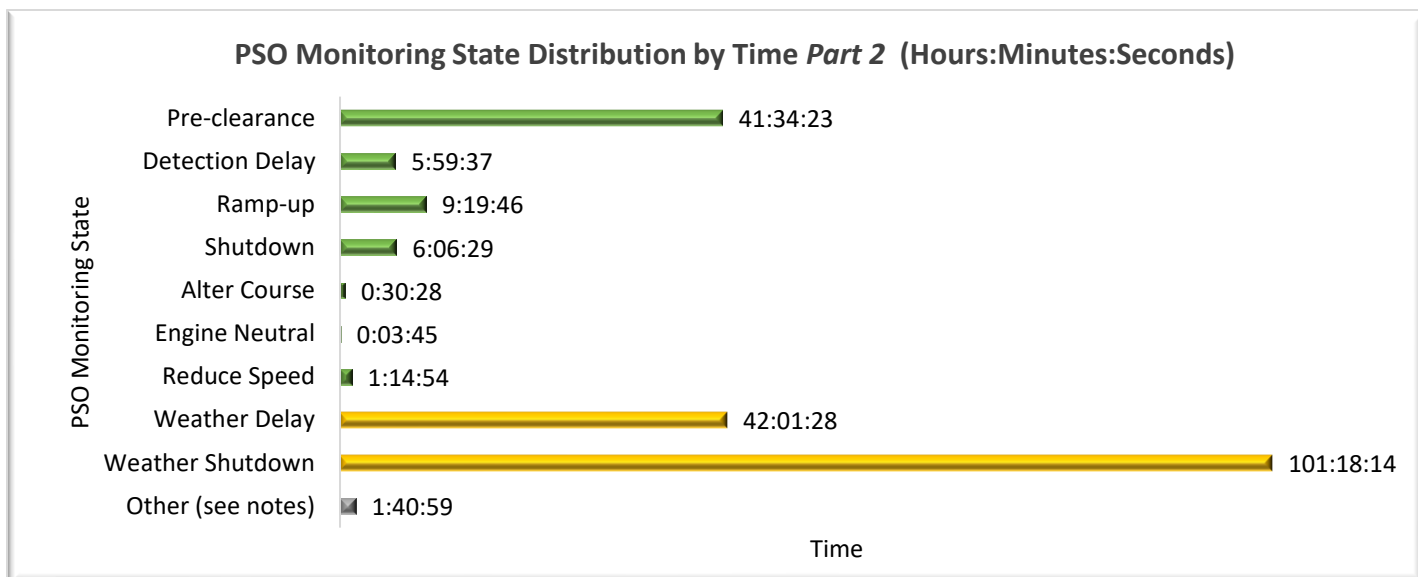


Figure 4 – Monitoring State Distribution by Time Part 2 (hh:mm:ss)

During the survey PSOs visually monitored the area around the vessels for a total of 4,254 hours and 37 minutes. Of this time, the area was monitored by one visual observer for 2,570 hours and 41 minutes and by two visual observers for 1,683 hours and 50 minutes (**Figure 5**).

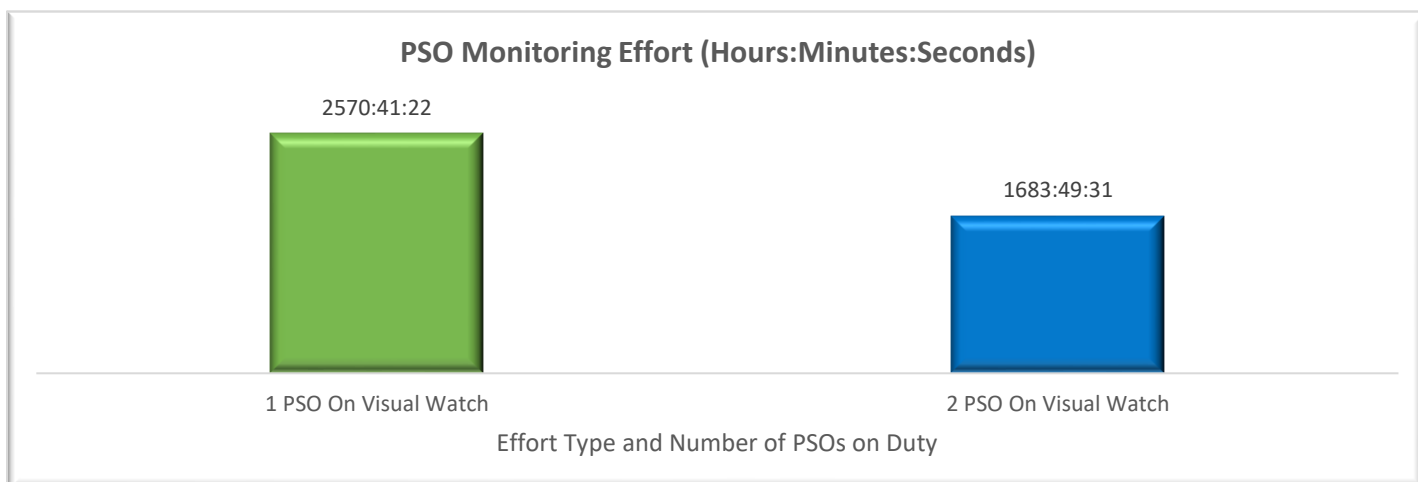


Figure 5 – PSO Monitoring Effort (hh:mm:ss)

With both of the survey vessels operating twenty-four hours a day, there were many instances where alternative monitoring technology was used. In total, PSOs monitored with alternative monitoring technology for 1,905 hours and 41 minutes. Based on the survey (regulated or non-regulated HRG), either two or one PSO was on watch during nighttime hours and the alternative monitoring technology (handheld TI and NVD) that personnel used varied (**Figure 6**). This variation in equipment use was due to the environmental conditions and PSO preference. For a total of 17 hours and 22 minutes aboard the *GO Pursuit*, a combination of unaided eye (UE) and handheld TI were used during daylight hours. TI was employed during daylight hours which occurred under heavy fog and/or misty conditions. The usage of this gear facilitated the continuation of active survey operations.

Refer to the timeline of survey activities presented in the Microsoft Excel file accompanying this Report for further details regarding PSO watches and HRG survey activities conducted during these campaigns.

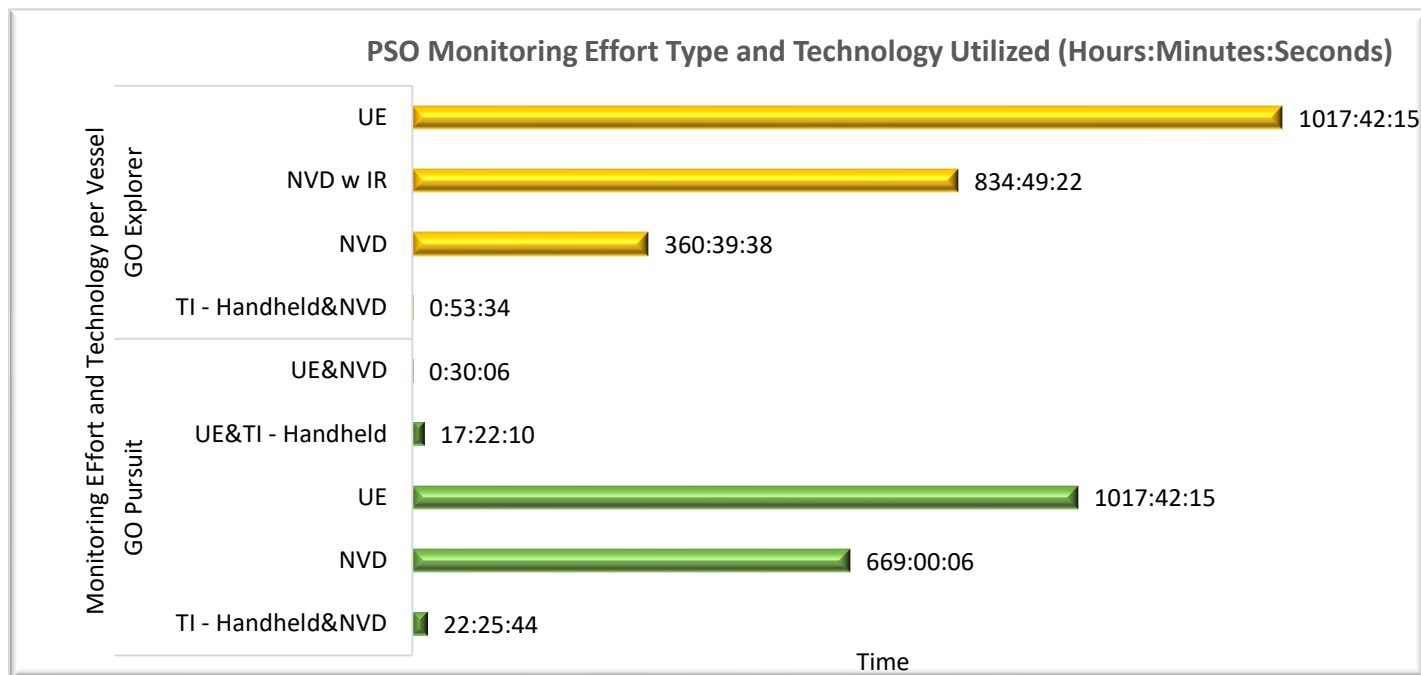


Figure 6 – PSO Monitoring Type Per Vessel And Technology Used (hh:mm:ss)¹³

5.0 Protected Species Detections and Mitigation

During the HRG surveys, LLW PSOs visually observed an estimated 1,840 individual animals of which 405 sightings were of marine mammals, sea turtles, and other protected species (Table 5 and Appendix A). There were 270 detections via either unaided eye (UE) or reticulated binoculars and 131 detections using alternative monitoring technology. Four detections were initially made via auditory methods. In the case of the solitary unidentified whale “breathing” was the initial trigger that there was a whale in the area. However, for three detections of short-beaked common dolphins splashes were heard, later the animals were confirmed by visual observation. No NARW were detected throughout the survey efforts.

Table 5 – Number of Detections and Animals Detected per Observation Method

Taxonomic Group/Species	Total Number of Detections	Total Number of Individuals Detected	Number of Detections Via Unaided Eye	Number of Detections via Alt. Monitoring Tech.	Number of Detections via Auditory Means
<i>Whales</i>	74	106	73	0	1
Fin Whale	12	18	12	0	0
Humpback Whale	24	37	24	0	0

¹³ UE= unaided eye, NVD= night vision device, IR= infrared, TI= thermal imager

Taxonomic Group/Species	Total Number of Detections	Total Number of Individuals Detected	Number of Detections Via Unaided Eye	Number of Detections via Alt. Monitoring Tech.	Number of Detections via Auditory Means
Minke Whale	7	7	7	0	0
Sei Whale	6	12	6	0	0
Unidentified Mysticete Whale	25	32	24	0	1
<i>Dolphins</i>	<i>162</i>	<i>1562</i>	<i>106</i>	<i>53</i>	<i>3</i>
Atlantic White-sided Dolphin	1	250	1	0	0
Bottlenose Dolphin	31	336	31	0	0
Short-beaked Common Dolphin	88	743	50	35	3
Unidentified Dolphin	42	233	24	18	0
<i>Porpoise</i>	<i>3</i>	<i>3</i>	<i>3</i>	<i>0</i>	<i>0</i>
Harbor Porpoise	3	3	3	0	0
<i>Seals</i>	<i>9</i>	<i>9</i>	<i>9</i>	<i>0</i>	<i>0</i>
Gray Seal	8	8	8	0	0
Harbor Seal	1	1	1	0	0
<i>Unidentified Marine Mammal</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>0</i>	<i>0</i>
<i>Sea Turtles</i>	<i>153</i>	<i>156</i>	<i>75</i>	<i>78</i>	<i>0</i>
Green Sea Turtle	1	1	1	0	0
Leatherback Sea Turtle	3	3	3	0	0
Loggerhead Sea Turtle	75	76	62	13	0
Unidentified Sea Turtle	74	76	9	65	0
<i>Other Protected Species</i>	<i>3</i>	<i>3</i>	<i>3</i>		<i>0</i>
Atlantic Sturgeon	2	2	2	0	0

Taxonomic Group/Species	Total Number of Detections	Total Number of Individuals Detected	Number of Detections Via Unaided Eye	Number of Detections via Alt. Monitoring Tech.	Number of Detections via Auditory Means
Basking Shark	1	1	1	0	0
Grand Total	405	1840	270	131	4

5.1 Detection Distribution by Vessel Activity

The most frequently observed taxonomic groups were dolphins of three different species along with some that could not be identified by the PSOs. Unidentified classifications were given to these animals because of sighting distance, brevity of sighting, elevated environmental conditions, and nighttime detections. The most observed species of dolphin was the short-beaked common dolphin, with a total 88 detections of 743 individual animals. Sea turtles were the next most commonly observed grouping with loggerhead sea turtles, *Caretta caretta*, being the most common at 75 detections of 76 individual animals. There were some animals observed that couldn't be identified to a specific species; however, PSOs used body size, shape, size of blow, number of individuals in a grouping, and other identifying characteristics to be as specific with identifications as possible. In cases where animals were unidentifiable to the species, the PSOs asserted the following types of animals: mysticete whales, dolphins, sea turtles, and marine mammals. PSOs reported no NARW characteristics during viewings of these unidentified animals. The majority of sightings were documented by PSOs onboard the project vessels during surveying (**Figure 7**¹⁴).

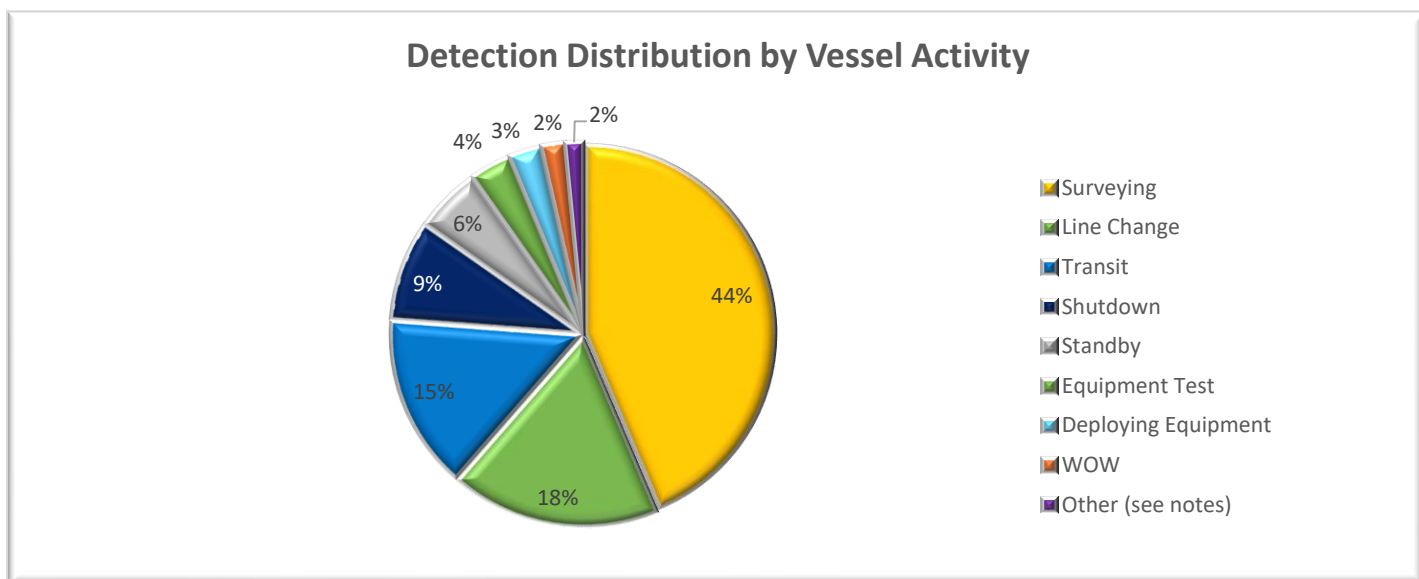


Figure 7 – Detection Distribution by Vessel Activity

Of all the protected species detections throughout the HRG surveys, only 145 were concurrent with active periods of regulated HRG survey equipment (i.e., sparker operations). These detections consisted of various species of whales,

¹⁴ Less than 1 percent of sightings occurred during periods of non PSO shutdown, ramp-up and retrieving equipment thus these items were not included in this figure.

dolphins, sea turtles, and seals with the Closest Points of Approach (CPA) ranging from 1 – 2500 meters (**Table 6**). Over the course of the surveys, delays to operational start-up of regulated HRG survey equipment occurred 20 times due to individual animals being observed within the relevant pre-start clearance zone (Appendix A). These 20 delays were all triggered by sea turtles; in 19 cases they were solitary loggerhead sea turtles and in one instance it was a lone unidentified sea turtle. All these detections were followed by a 30-minute period of additional zone clearance immediately prior to regulated HRG equipment ramp-up.

Table 6 – Detection CPSs During Regulated HRG Source Usage, All Species

Taxonomic Group/Species	Total Number of Detections	Total number of Individual Animals Detected	Minimum of CPA to Active Source (meters)	Maximum of CPA to Active Source (meters)
<i>Whales</i>	25	34	-	-
Fin Whale	5	7	85	1,590
Humpback Whale	4	5	150	2,100
Minke Whale	1	1	1950	1,950
Sei Whale	3	6	350	600
Unidentified Mysticete Whale	12	15	200	2,500
<i>Dolphins</i>	64	513	-	-
Bottlenose Dolphin	2	72	500	850
Short-beaked Common Dolphin	46	353	5	800
Unidentified Dolphin	16	88	1	1,440
<i>Seals</i>	4	4	-	-
Gray Seal	4	4	250	750
<i>Sea Turtles</i>	52	54	-	-
Leatherback Sea Turtle	1	1	100	100
Loggerhead Sea Turtle	19	20	40	380
Unidentified Sea Turtle	32	33	0	670
Grand Total	145	605	-	-

5.2 Shutdowns to Regulated HRG Source Activities

There were 76 detections that triggered the implementation of shutdown mitigation measures (**Table 7**) due to protected species observed within the applicable shutdown zone¹⁵. Seventy-three of these shutdown events were triggered by sea turtles observed either entering or surfacing within the shutdown zone during regulated HRG survey activity. Every instance of sea turtle incursion into the shutdown zone and subsequent shutdown, was followed by the required 2-minute waiting period before reinitiating regulated HRG survey activities¹⁶. Single instances of shutdowns were triggered by a solitary fin whale, an unidentified mysticete whale, and an unidentified dolphin. The fin whale detection (Appendix A, 357) occurred on September 4, 2023 at 13:11 UTC. While initially observed 1,000 meters from the regulated HRG source, the second surfacing at 13:15 UTC brought it within 85 meters of the sparker which triggered a shutdown request that was immediately complied by the survey team. Because mitigation action was immediately called for and enacted this detection is not considered a potential take.

Table 7 – Shutdowns To Regulated HRG Source Activities

Taxonomic Group/Species	Total Number of Detections	Total Number of Individual Animals Detected	Mitigation Request	Mitigation Response
<i>Whales</i>	2	2	<i>Shutdown</i>	<i>Shutdown</i>
Fin Whale	1	1	Shutdown	Shutdown
Unidentified Mysticete Whale	1	1	Shutdown	Shutdown
<i>Dolphins</i>	1	2	<i>Shutdown</i>	<i>Shutdown</i>
Unidentified Dolphin	1	2	Shutdown	Shutdown
<i>Sea Turtles</i>	73	76	<i>Shutdown</i>	<i>Shutdown</i>
Leatherback Sea Turtle	1	1	Shutdown	Shutdown
Loggerhead Sea Turtle	17	18	Shutdown	Shutdown
Unidentified Sea Turtle	55	57	Shutdown	Shutdown
Grand Total	76	80	Shutdown	Shutdown

5.3 Potential Level B Takes

Fifty detections for a total of 272 individual animals encroached within the 141 Level B Harassment Zone during active periods of regulated HRG survey activities and could potentially be deemed as takes (**Table 8**). Possible takes occurred for individuals and groups of the following species: short-beaked common dolphin and unidentified dolphin. These dolphins were observed as solitary or in groups of up to 15 animals and were all confirmed by the PSOs on watch to be actively

¹⁵ Other non-regulated survey equipment was not shutdown due to these sightings.

¹⁶ Within Mysticetus (PSO data collection software) some items of data that are entered by the PSOs on the observer effort tab get pulled into the detections tab automatically and Vessel Activity is one of those fields.

approaching the vessel during survey operations. These interactions did not require shutdowns. No other animals were observed in or around the Level B Harassment Zone throughout active regulated survey operations.

Table 8 – Potential Level B Takes

Taxonomic Group/Species	Total Number of Detections	Total Number of Individual Animals Detected	Number of Takes Allotted per IHA
<i>Dolphins</i>	50	272	
Short-beaked Common Dolphin	39	232	888
Unidentified Dolphin	11	40	N/A
Grand Total	50	272	

5.4 Vessel Strike Avoidance Action

There were 49 detections that required strike avoidance mitigation actions, and these instances resulted in the following actions: alteration of course, reduction of speed, and shifting the engines into neutral. Animals that triggered strike avoidance included whales, dolphins, one sighting of an unidentified marine mammal, various sea turtles, and a solitary basking shark (*Cetorhinus maximus*). The number of detections and number of individuals that triggered vessel strike avoidance actions are listed below in **Table 9**. Several animals were detected within their species-specific strike avoidance distance, but they belonged to dolphin species exempt from vessel strike avoidance actions. Therefore, the PSO team did not request or take any action. No other vessel strike avoidance mitigation actions were required or enacted during either of these deployments.

Table 9 – Vessel Strike Avoidance (VSA) Action by Taxonomic Species

Taxonomic Group/Species	Total Number of Detections	Total Number of Individual Animals Detected	VSA Action Requested	VSA Action Implemented
<i>Whales</i>	10	17		
Humpback Whale	1	1	Yes	Yes
Minke Whale	3	3	Yes	Yes
Sei Whale	2	6	Yes	Yes
Unidentified Mysticete Whale	4	7	Yes	Yes
<i>Dolphins</i>	8	36		
Bottlenose Dolphin	3	14	Yes	Yes
Short-beaked Common Dolphin	2	13	Yes	Yes
Unidentified Dolphin	3	9	Yes	Yes

Taxonomic Group/Species	Total Number of Detections	Total Number of Individual Animals Detected	VSA Action Requested	VSA Action Implemented
<i>Unidentified Marine Mammal</i>	1	1		
Unidentified Marine Mammal	1	1	Yes	Yes
<i>Sea Turtles</i>	29	30		
Leatherback Sea Turtle	2	2	Yes	Yes
Loggerhead Sea Turtle	20	21	Yes	Yes
Unidentified Sea Turtle	7	7	Yes	Yes
<i>Other Species</i>	1	1		
Basking Shark	1	1	Yes	Yes
Grand Total	49	85		

5.5 Injured or Dead Protected Species

There was one entangled short-beaked common dolphin observed by the PSO team on the GO Explorer on September 20, 2023. This animal was part of a group of three dolphins that approached within one meter of the vessel. From this vantage point the PSO was able to get a good view and photograph of the entanglement which was found to be unidentified marine debris attached to the right pectoral fin of the dolphin. Additional information and the photograph of the entanglement can be found in Appendix B. No additional, injured or dead protected species were observed for the duration of the *GO Explorer* surveys in 2023 or the *GO Pursuit* surveys in 2024. A detailed summary of each PSO detection can be found in the Microsoft Excel file accompanying this Report. This data provides additional detection information beyond what is summarized in the body of this Report.

6.0 Summary of Weather and Environmental Conditions

Data on various weather and environmental conditions occurring during the HRG surveys PSO observations were collected including cloud cover, wind speed, wind direction, precipitation, sun glare, and visibility (Figures 8-12). These factors can affect the PSOs ability to observe the required zones effectively, ultimately delaying operations. The largest values in every figure are highlighted with yellow.

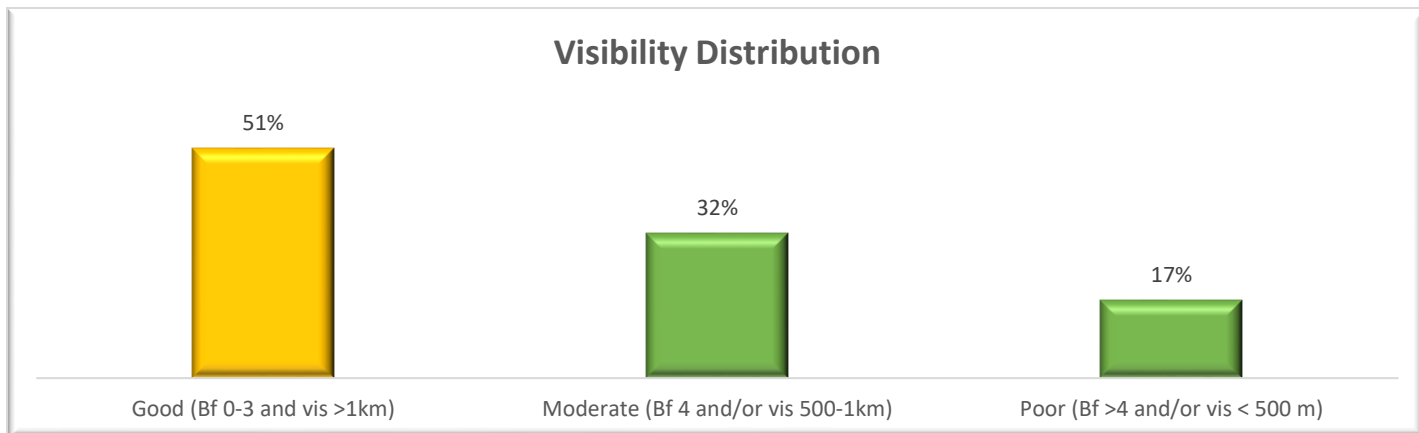


Figure 8 Visibility Distribution (Good = >1,000m, Moderate= 1,000 – 500m, Poor= <500m)
(Bf = Beaufort, vis=visibility)

Throughout the HRG survey campaigns, PSOs were able to view the entire shutdown and monitoring zones under mostly good, somewhat moderate, and few instances of poor visibility conditions (**Figure 8**). For the majority of operations, there were clear skies (40%), apart from partly cloudy (28%) and overcast (31%) periods there was very little other precipitation (combined 17%) (**Figure 9**).

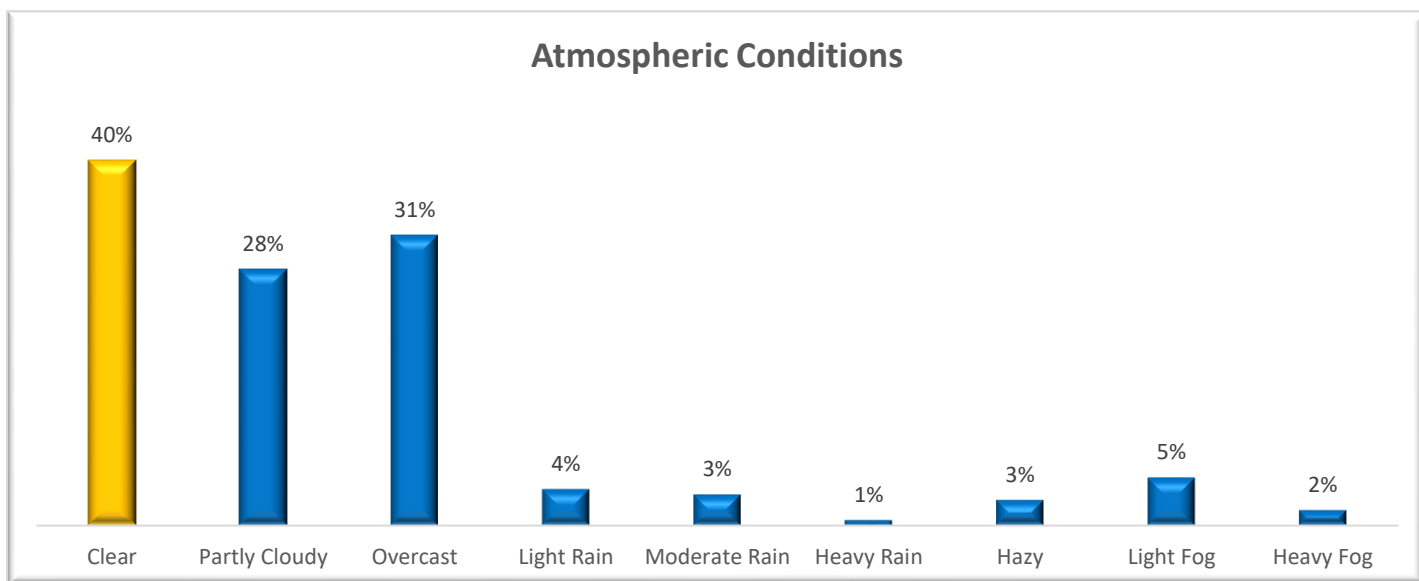


Figure 9 – Atmospheric Conditions

No glare was experienced for the majority of the survey (61%). Moderate glare was present for 41% of the survey and extreme glare was only present for a minimal amount for time (4%) resulting in overall moderate visibility conditions for protected species monitoring (**Figure 10**).

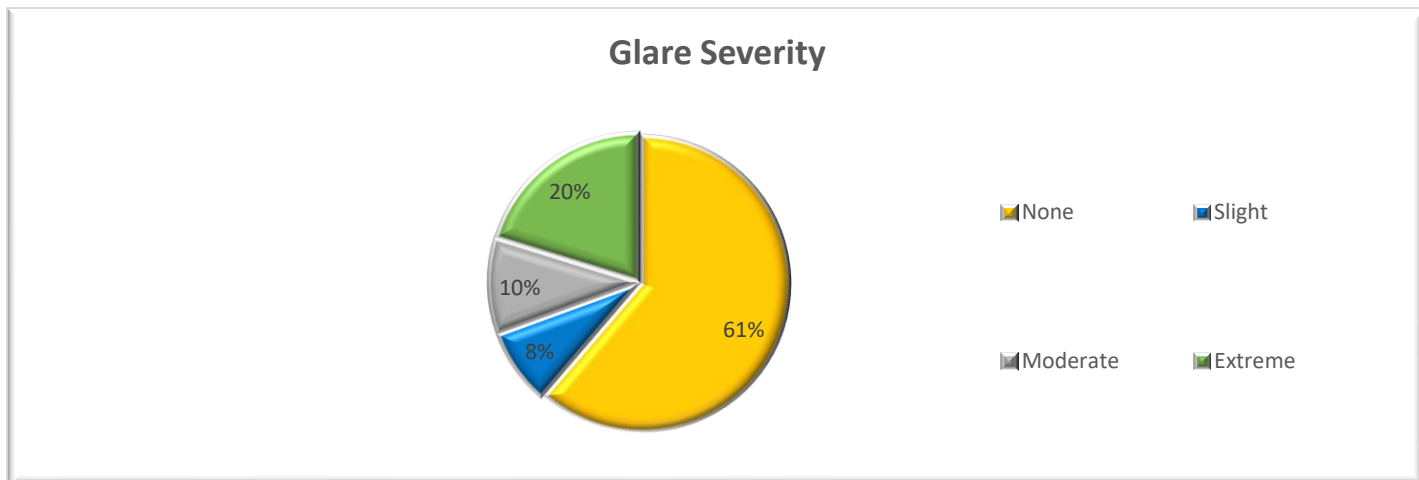


Figure 10 – Glare Severity

None= no glare, Slight = faint, but easily monitored, Moderate = substantial, somewhat difficult to monitor Extreme = any amount of glare too difficult to monitor

Beaufort sea state¹⁷ recorded during visual monitoring ranged from flat calm at zero to the strong breezes and larger waves associated with level six over the course of the observational period (**Figure 11**). A quarter (25%) of visual observations were undertaken during elevated weather conditions, which is represented by instances when the Beaufort state was level four or above.

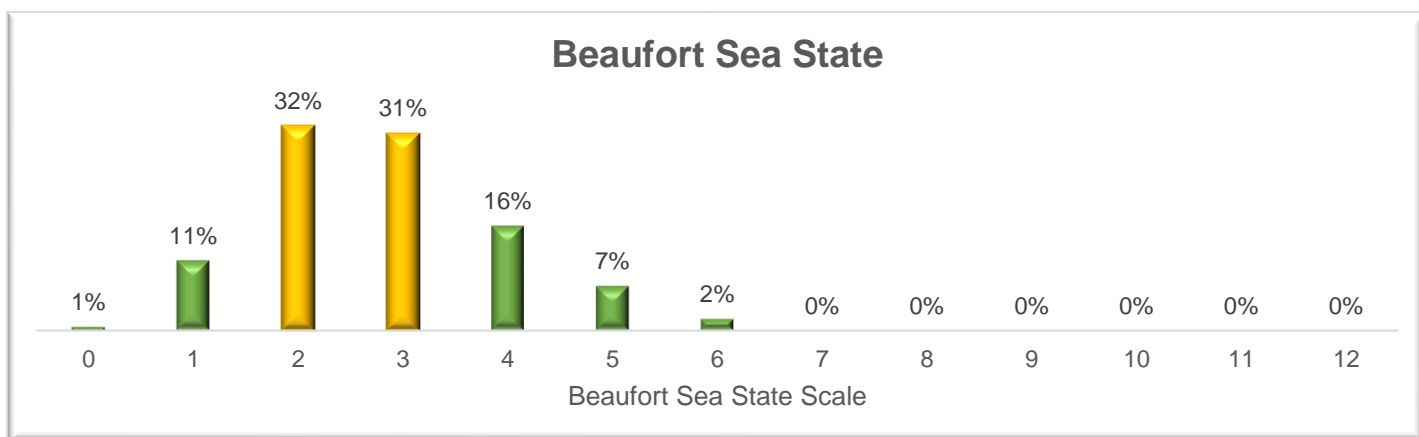


Figure 11 – Beaufort Sea State Distribution

Cloud cover varied widely over the course of this deployment (**Figure 12**). This resulted in the elevated glare conditions that created moderately less than ideal monitoring conditions occasionally.

¹⁷ Beaufort sea state is a description used by mariners and scientists to describe the condition of wind and waves on the sea surface which is based on the Beaufort scale.

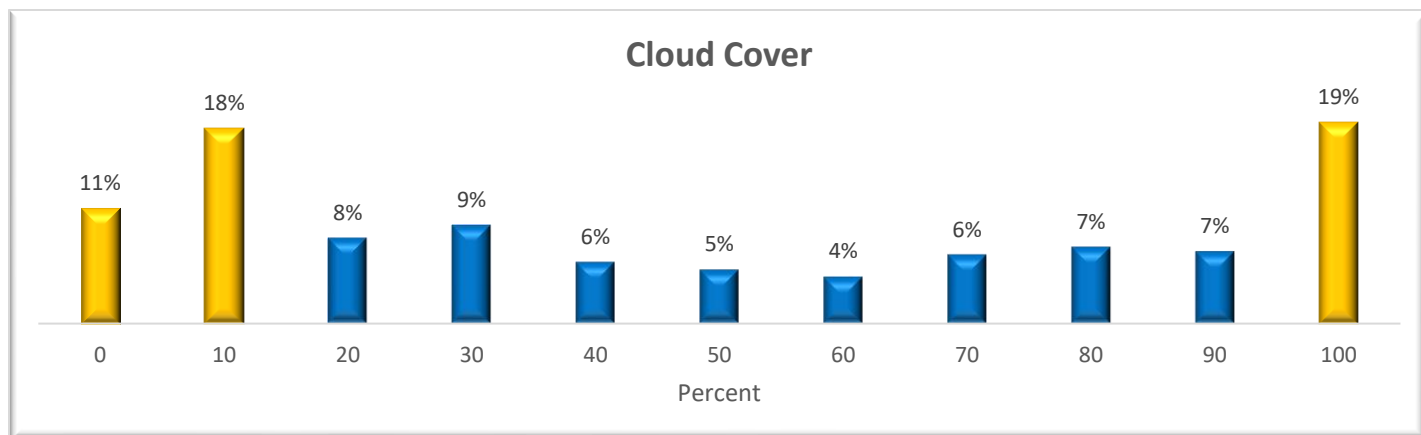


Figure 12 – Cloud Cover Distribution

Overall good visibility and minimal precipitation combined with lower sea state amounted to generally favorable conditions for PSO monitoring. As a result, the PSO team is confident that they were able to monitor the shutdown zone effectively for protected species throughout the HRG survey campaigns.

7.0 Conclusions

Survey operations were effectively monitored by teams of either three or five PSOs based on the type of survey equipment that was in use. These PSOs were positioned on the bridge level of their vessel to effectively observe the pre-start clearance and shutdown zones. As indicated above in Section 3, monitoring began as soon as the vessels left the dock, based on permit stipulations. This monitoring continued throughout all transits and during all periods of active data collection and use of HRG sources. During this time visual monitoring was completed to comply with vessel strike avoidance measures, pre-start clearances, and survey watch requirements. No PSO monitored for more than four consecutive hours without taking at least a one-hour break.

At all times the PSOs conducted observations encompassing 360° around the vessel. To accommodate the operations team’s access to onboard equipment, PSOs adjusted their monitoring positions to ensure optimal and safe visibility of the shutdown zone surrounding the survey equipment. This allowed them to properly clear the shutdown zone and ensure continuous in line with regulatory standards.

During the survey campaigns there was a total of 405 protected species sightings representing an estimated 1,840 individual animals. Sixty-seven of those detections triggered shutdown mitigation measures and were primarily due to sea turtle sightings. Fifty of the detections consisted of dolphins encroaching within the 141 Level B Harassment Zone and met the criteria of takes. During the course of the survey campaigns, 20 sea turtle detections triggered delays to operational start-up and 49 sightings required vessel strike avoidance mitigation. All mitigation, delay, and vessel strike avoidance mitigation requests were enacted as soon as they were requested by the PSO team. There was a single observation of an entangled dolphin but otherwise no other injured, entangled, or dead protected species observed during these surveys. The monitoring and mitigation measures proved effective in protecting marine species.

8.0 References

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Appendix A.

LLW Geophysical Survey Protected Species Observations

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
247	Unidentified Dolphin	2	8/3/2023 20:41	Go Explorer	Transit	50	40	Reduce Speed	
248	Short-beaked Common Dolphin	8	8/4/2023 11:25	Go Explorer	Standby	300			
249	Short-beaked Common Dolphin	5	8/4/2023 17:56	Go Explorer	Surveying	250	37		

¹⁸ Within Mysticetus some items of data are entered by the PSOs on the observer Effort tab then get pulled into the Detections tab automatically; Vessel Activity is one of those fields. All of the cases in which vessel activity is shutdown when the mitigation measures also indicate shutdown are due to the fact that the shutdown of regulated sources was called for an enacted immediately. Because of this the timing of the detections coincides exactly with the time that the vessel activity changed from surveying to shutdown. This is the case for the following detections: 272, 285, 293, 296, 297, 302, 304, 305, 310, 311, 313, 314, 317, 322, 323, 327, 346, 355, 365, 384, 395, 415, 421, 430, 431, 432, 433 and V169.

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
250	Short-beaked Common Dolphin	3	8/5/2023 2:33	Go Explorer	Surveying	15	5	Reduce Speed	Yes
251	Loggerhead Sea Turtle	1	8/5/2023 20:10	Go Explorer	Surveying	300	150		
252	Loggerhead Sea Turtle	1	8/5/2023 23:42	Go Explorer	Surveying	10	10	Alter Course	
253	Unidentified Sea Turtle	1	8/6/2023 3:21	Go Explorer	Surveying	35	25	Reduce Speed	
254	Loggerhead Sea Turtle	1	8/6/2023 6:26	Go Explorer	Surveying	40	30	Reduce Speed	
255	Short-beaked Common Dolphin	2	8/7/2023 4:15	Go Explorer	Surveying	45	5		Yes
256	Short-beaked Common Dolphin	6	8/7/2023 4:45	Go Explorer	Surveying	30	5		Yes
257	Unidentified Sea Turtle	1	8/7/2023 6:37	Go Explorer	Surveying	50	15		
258	Unidentified Sea Turtle	1	8/7/2023 8:27	Go Explorer	Surveying	10	80	Shutdown	
259	Bottlenose Dolphin	5	8/8/2023 12:57	Go Explorer	Standby	2	1	Engine Neutral	
260	Bottlenose Dolphin	5	8/8/2023 13:28	Go Explorer	Standby	10	10	Engine Neutral	

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
261	Bottlenose Dolphin	4	8/9/2023 0:19	Go Explorer	Standby	25	10	Engine Neutral	
262	Unidentified Sea Turtle	1	8/11/2023 2:48	Go Explorer	Standby	70	110	Reduce Speed	
263	Unidentified Dolphin	3	8/11/2023 5:59	Go Explorer	Standby	25	5		
264	Unidentified Dolphin	2	8/11/2023 7:48	Go Explorer	Deploying Equipment	35	60		
265	Unidentified Sea Turtle	1	8/12/2023 5:13	Go Explorer	Surveying	20	60	Shutdown	
266	Unidentified Sea Turtle	1	8/12/2023 6:17	Go Explorer	Surveying	10	10	Shutdown	
267	Unidentified Sea Turtle	1	8/12/2023 7:30	Go Explorer	Surveying	25	66	Shutdown	
268	Unidentified Sea Turtle	1	8/12/2023 7:54	Go Explorer	Surveying	20	60	Shutdown	
269	Unidentified Sea Turtle	1	8/12/2023 8:25	Go Explorer	Surveying	15	10	Shutdown	
270	Unidentified Sea Turtle	1	8/12/2023 8:42	Go Explorer	Line Change	15	20	Shutdown	
271	Unidentified Sea Turtle	1	8/13/2023 0:45	Go Explorer	Surveying	20	25	Shutdown	
272	Unidentified Sea Turtle	1	8/13/2023 1:04	Go Explorer	Shutdown	30	25	Shutdown	
273	Unidentified Sea Turtle	1	8/13/2023 1:12	Go Explorer	Surveying	15	17	Shutdown	

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
274	Unidentified Sea Turtle	1	8/13/2023 1:28	Go Explorer	Surveying	20	30	Shutdown	
275	Unidentified Sea Turtle	1	8/13/2023 1:30	Go Explorer	Surveying	30	30	Shutdown	
276	Unidentified Sea Turtle	1	8/13/2023 1:32	Go Explorer	Surveying	30	30	Shutdown	
277	Unidentified Sea Turtle	1	8/13/2023 1:41	Go Explorer	Surveying	30	30	Shutdown	
278	Unidentified Sea Turtle	1	8/13/2023 2:05	Go Explorer	Surveying	50	30	Shutdown	
279	Unidentified Sea Turtle	1	8/13/2023 8:22	Go Explorer	Surveying	25	45	Shutdown	
280	Loggerhead Sea Turtle	1	8/13/2023 8:35	Go Explorer	Surveying	30	75	Shutdown	
281	Unidentified Dolphin	4	8/13/2023 9:37	Go Explorer	Line Change	100	15		Yes
282	Humpback Whale	2	8/13/2023 11:47	Go Explorer	Surveying	700	700		
283	Loggerhead Sea Turtle	1	8/13/2023 13:22	Go Explorer	Surveying	5	5	Shutdown	
284	Short-beaked Common Dolphin	1	8/14/2023 1:37	Go Explorer	Surveying	8	8	Requested and maintained course and speed under 4kts	Yes
286	Unidentified Sea Turtle	1	8/14/2023 2:28	Go Explorer	Surveying	60	90	Shutdown	

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
287	Unidentified Sea Turtle	1	8/14/2023 3:08	Go Explorer	Surveying	20	10	Shutdown	
285	Unidentified Sea Turtle	1	8/14/2023 3:48	Go Explorer	Shutdown	30	80	Shutdown	
288	Unidentified Sea Turtle	1	8/14/2023 4:02	Go Explorer	Surveying	50	90	Shutdown	
289	Short-beaked Common Dolphin	2	8/14/2023 4:05	Go Explorer	Surveying	10	10		Yes
290	Unidentified Sea Turtle	1	8/14/2023 4:36	Go Explorer	Surveying	50	90	Shutdown	
291	Unidentified Sea Turtle	1	8/14/2023 4:51	Go Explorer	Line Change	15	95	Shutdown	
292	Unidentified Sea Turtle	1	8/14/2023 5:45	Go Explorer	Surveying	40	80	Shutdown	
293	Unidentified Sea Turtle	1	8/14/2023 6:03	Go Explorer	Shutdown	20	20	Shutdown	
294	Unidentified Sea Turtle	1	8/14/2023 6:07	Go Explorer	Surveying	40	80	Shutdown	
295	Unidentified Sea Turtle	1	8/14/2023 6:35	Go Explorer	Surveying	20	10	Shutdown	
296	Unidentified Sea Turtle	1	8/14/2023 6:40	Go Explorer	Shutdown	30	80	Shutdown	
298	Unidentified Sea Turtle	1	8/14/2023 7:41	Go Explorer	Surveying	25	20	Shutdown	

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
297	Unidentified Sea Turtle	1	8/14/2023 9:14	Go Explorer	Shutdown	20	80	Shutdown	
299	Short-beaked Common Dolphin	3	8/14/2023 9:31	Go Explorer	Surveying	50	15		Yes
300	Short-beaked Common Dolphin	4	8/14/2023 11:47	Go Explorer	Line Change	30	2		Yes
301	Loggerhead Sea Turtle	1	8/14/2023 16:36	Go Explorer	Surveying	600	60	Shutdown	
302	Unidentified Sea Turtle	1	8/15/2023 1:37	Go Explorer	Shutdown	50	50	Shutdown	
303	Unidentified Dolphin	2	8/15/2023 1:58	Go Explorer	Line Change	30	90		Yes
304	Unidentified Sea Turtle	1	8/15/2023 3:58	Go Explorer	Shutdown	25	90	Shutdown	
305	Unidentified Sea Turtle	1	8/15/2023 4:30	Go Explorer	Shutdown	30	90	Shutdown	
306	Loggerhead Sea Turtle	1	8/15/2023 13:38	Go Explorer	Standby	10	100	Reduce Speed	
307	Humpback Whale	1	8/15/2023 18:02	Go Explorer	Standby	800	800		
308	Unidentified Sea Turtle	1	8/16/2023 7:13	Go Explorer	Other	20	112	Detection Delay	

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
309	Unidentified Dolphin	8	8/17/2023 0:40	Go Explorer	Surveying	5	5		
310	Unidentified Sea Turtle	1	8/17/2023 0:54	Go Explorer	Shutdown	20	30	Shutdown	
311	Unidentified Sea Turtle	1	8/17/2023 1:39	Go Explorer	Shutdown	40	10	Shutdown	
312	Unidentified Sea Turtle	1	8/17/2023 1:57	Go Explorer	Surveying	10	30	Shutdown	
313	Unidentified Sea Turtle	1	8/17/2023 2:47	Go Explorer	Shutdown	25	30	Shutdown	
314	Unidentified Sea Turtle	1	8/17/2023 3:17	Go Explorer	Shutdown	15	10	Shutdown	
315	Unidentified Sea Turtle	1	8/17/2023 3:37	Go Explorer	Surveying	20	85	Shutdown	
316	Unidentified Sea Turtle	2	8/17/2023 4:59	Go Explorer	Surveying	20	30	Shutdown	
317	Unidentified Sea Turtle	1	8/17/2023 7:32	Go Explorer	Shutdown	35	40	Shutdown	
318	Loggerhead Sea Turtle	1	8/17/2023 10:40	Go Explorer	Surveying	150	150	Reduce Speed	
319	Unidentified Sea Turtle	1	8/18/2023 1:27	Go Explorer	Transit	35	20		
320	Short-beaked Common Dolphin	3	8/18/2023 7:43	Go Explorer	Transit	15	50		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
321	Unidentified Mysticete Whale	1	8/18/2023 10:07	Go Explorer	Transit	1500	1550		
322	Unidentified Sea Turtle	1	8/20/2023 3:19	Go Explorer	Shutdown	20	60	Shutdown	
323	Unidentified Sea Turtle	1	8/20/2023 6:01	Go Explorer	Shutdown	30	60	Shutdown	
324	Unidentified Sea Turtle	2	8/20/2023 8:36	Go Explorer	Line Change	30	60	Shutdown	
325	Unidentified Sea Turtle	1	8/20/2023 8:37	Go Explorer	Shutdown	35	50	Reduce Speed	
326	Unidentified Sea Turtle	1	8/21/2023 3:44	Go Explorer	Surveying	40	60	Alter Course	
327	Unidentified Sea Turtle	1	8/21/2023 8:26	Go Explorer	Shutdown	30	80	Shutdown	
328	Unidentified Sea Turtle	1	8/21/2023 8:37	Go Explorer	Surveying	20	85	Shutdown	
329	Unidentified Sea Turtle	1	8/23/2023 5:17	Go Explorer	Transit	20	42	Reduce Speed	
330	Loggerhead Sea Turtle	1	8/23/2023 15:22	Go Explorer	Shutdown	5	60	Reduce Speed	
331	Unidentified Mysticete Whale	1	8/24/2023 0:01	Go Explorer	Surveying	2500	2500		
332	Unidentified Sea Turtle	1	8/24/2023 3:11	Go Explorer	Surveying	60	15	Shutdown	

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
333	Unidentified Sea Turtle	1	8/24/2023 3:25	Go Explorer	Surveying	50	50	Shutdown	
334	Unidentified Sea Turtle	1	8/24/2023 4:14	Go Explorer	Surveying	45	15	Shutdown	
335	Unidentified Sea Turtle	1	8/24/2023 5:11	Go Explorer	Surveying	35	15	Shutdown	
336	Unidentified Sea Turtle	1	8/24/2023 5:41	Go Explorer	Surveying	40	15	Shutdown	
337	Unidentified Dolphin	1	8/26/2023 10:23	Go Explorer	Transit	50	20		
338	Short-beaked Common Dolphin	4	8/27/2023 2:43	Go Explorer	Shutdown	10	80		
339	Loggerhead Sea Turtle	1	8/27/2023 5:15	Go Explorer	Shutdown	25	50	Reduce Speed	
340	Unidentified Dolphin	1	8/27/2023 5:48	Go Explorer	Other	30	80		
341	Loggerhead Sea Turtle	1	8/27/2023 8:53	Go Explorer	Surveying	60	70	Reduce Speed	
342	Unidentified Mysticete Whale	2	8/27/2023 10:40	Go Explorer	Other	600	300	Alter Course	
343	Sei Whale	3	8/27/2023 11:56	Go Explorer	Shutdown	300	250	Alter Course	
344	Sei Whale	3	8/27/2023 12:52	Go Explorer	Ramp-up	150	150	Alter Course	

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
345	Short-beaked Common Dolphin	4	8/28/2023 2:03	Go Explorer	Surveying	30	90		Yes
346	Loggerhead Sea Turtle	1	8/28/2023 5:12	Go Explorer	Shutdown	5	90	Shutdown	
347	Loggerhead Sea Turtle	1	8/28/2023 8:53	Go Explorer	Surveying	60	65	Shutdown	
348	Unidentified Sea Turtle	1	8/28/2023 9:13	Go Explorer	Shutdown	40	90	Reduce Speed	
348	Unidentified Mysticete Whale	1	8/28/2023 18:58	Go Explorer	Surveying	120	150	Reduce Speed	
349	Bottlenose Dolphin	3	8/30/2023 13:38	Go Explorer	WOW	200	70		
350	Unidentified Dolphin	1	9/2/2023 13:57	Go Explorer	Transit	150	200		
351	Short-beaked Common Dolphin	6	9/3/2023 2:28	Go Explorer	Surveying	15	15		Yes
352	Short-beaked Common Dolphin	10	9/3/2023 11:30	Go Explorer	Surveying	150	15		Yes
353	Unidentified Mysticete Whale	1	9/3/2023 19:50	Go Explorer	Surveying	900	900		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
354	Unidentified Mysticete Whale	2	9/3/2023 21:44	Go Explorer	Surveying	2100	2100		
355	Unidentified Sea Turtle	1	9/4/2023 2:51	Go Explorer	Shutdown	50	90	Shutdown	
356	Short-beaked Common Dolphin	6	9/4/2023 7:14	Go Explorer	Surveying	60	90		Yes
357	Fin Whale	1	9/4/2023 13:11	Go Explorer	Surveying	1000	85	Shutdown	
358	Unidentified Mysticete Whale	1	9/4/2023 17:08	Go Explorer	Surveying	750	750		
359	Loggerhead Sea Turtle	1	9/4/2023 18:42	Go Explorer	Surveying	50	90	Reduce Speed	
360	Short-beaked Common Dolphin	12	9/4/2023 23:20	Go Explorer	Surveying	600	10		Yes
361	Short-beaked Common Dolphin	5	9/5/2023 2:09	Go Explorer	Surveying	100	15		Yes
362	Unidentified Sea Turtle	1	9/5/2023 2:15	Go Explorer	Surveying	300	300	Reduce Speed	
363	Short-beaked	6	9/5/2023 2:17	Go Explorer	Surveying	20	10		Yes

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
	Common Dolphin								
364	Short-beaked Common Dolphin	5	9/5/2023 5:44	Go Explorer	Line Change	15	5		Yes
365	Unidentified Sea Turtle	1	9/5/2023 6:14	Go Explorer	Shutdown	20	50	Shutdown	
366	Short-beaked Common Dolphin	4	9/5/2023 7:04	Go Explorer	Surveying	80	10		Yes
367	Short-beaked Common Dolphin	4	9/5/2023 8:03	Go Explorer	Surveying	20			Yes
368	Short-beaked Common Dolphin	7	9/5/2023 9:59	Go Explorer	Surveying	50	10		Yes
369	Short-beaked Common Dolphin	5	9/5/2023 10:02	Go Explorer	Surveying	120	120		Yes
370	Short-beaked Common Dolphin	6	9/5/2023 10:06	Go Explorer	Surveying	170	130		Yes

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
371	Unidentified Dolphin	3	9/5/2023 10:45	Go Explorer	Surveying	900	900		
372	Fin Whale	1	9/5/2023 15:15	Go Explorer	Surveying	1000	800		
373	Short-beaked Common Dolphin	12	9/5/2023 22:59	Go Explorer	Surveying	400	50		Yes
374	Unidentified Dolphin	15	9/6/2023 5:06	Go Explorer	Surveying	375	300		
375	Unidentified Mysticete Whale	1	9/6/2023 9:34	Go Explorer	Surveying	500	150	Shutdown	
376	Unidentified Dolphin	12	9/6/2023 16:40	Go Explorer	Surveying	200	90		Yes
377	Short-beaked Common Dolphin	40	9/6/2023 17:42	Go Explorer	Surveying	700	500		
378	Short-beaked Common Dolphin	15	9/6/2023 17:49	Go Explorer	Surveying	500	500		
379	Unidentified Sea Turtle	1	9/7/2023 8:04	Go Explorer	Surveying	20	20		
380	Short-beaked	20	9/7/2023 13:31	Go Explorer	Line Change	1000	5		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
	Common Dolphin								
381	Short-beaked Common Dolphin	6	9/8/2023 4:01	Go Explorer	Surveying	5	5		Yes
382	Unidentified Dolphin	2	9/8/2023 4:31	Go Explorer	Surveying	10	5		Yes
383	Short-beaked Common Dolphin	8	9/8/2023 11:40	Go Explorer	Surveying	50	5		Yes
384	Unidentified Sea Turtle	1	9/8/2023 15:49	Go Explorer	Shutdown	5	85	Shutdown	
385	Short-beaked Common Dolphin	6	9/8/2023 17:20	Go Explorer	Surveying	15	10		Yes
386	Loggerhead Sea Turtle	1	9/8/2023 17:38	Go Explorer	Surveying	40	30	Shutdown	
387	Leatherback Sea Turtle	1	9/8/2023 18:53	Go Explorer	Surveying	60	50	Shutdown	
388	Unidentified Sea Turtle	1	9/9/2023 1:14	Go Explorer	Surveying	30	90	Shutdown	
389	Unidentified Dolphin	2	9/9/2023 3:42	Go Explorer	Surveying	5	5		Yes
390	Unidentified Dolphin	2	9/9/2023 4:21	Go Explorer	Surveying	5	5		Yes

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
391	Short-beaked Common Dolphin	8	9/9/2023 10:57	Go Explorer	Deploying Equipment	200	1		
392	Unidentified Mysticete Whale	1	9/9/2023 19:40	Go Explorer	Surveying	1500	1500		
393	Unidentified Dolphin	2	9/10/2023 4:15	Go Explorer	Surveying	10	3		Yes
394	Unidentified Dolphin	3	9/10/2023 6:19	Go Explorer	Surveying	150	50		Yes
395	Loggerhead Sea Turtle	1	9/10/2023 7:36	Go Explorer	Shutdown	40	40	Shutdown	
396	Unidentified Dolphin	9	9/10/2023 11:41	Go Explorer	Surveying	200	200		
397	Short-beaked Common Dolphin	9	9/10/2023 11:47	Go Explorer	Surveying	150	1		Yes
398	Short-beaked Common Dolphin	10	9/10/2023 18:49	Go Explorer	Line Change	500	10		Yes
399	Short-beaked Common Dolphin	3	9/11/2023 2:48	Go Explorer	Surveying	50	10		Yes

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
400	Unidentified Dolphin	1	9/11/2023 3:59	Go Explorer	Surveying	10	10		Yes
401	Short-beaked Common Dolphin	3	9/11/2023 5:08	Go Explorer	Surveying	300	5		Yes
402	Unidentified Dolphin	2	9/11/2023 5:20	Go Explorer	Surveying	10	10		Yes
403	Short-beaked Common Dolphin	6	9/11/2023 7:45	Go Explorer	Surveying	20	10		Yes
404	Loggerhead Sea Turtle	1	9/11/2023 8:41	Go Explorer	Surveying	20	20	Shutdown	
405	Leatherback Sea Turtle	1	9/11/2023 18:21	Go Explorer	Transit	50	50	Reduce Speed	
407	Loggerhead Sea Turtle	1	9/16/2023 18:15	Go Explorer	Transit	300	250	Alter Course, Reduce Speed	
408	Loggerhead Sea Turtle	1	9/16/2023 18:59	Go Explorer	Transit	200	100	Alter Course, Reduce Speed	
409	Loggerhead Sea Turtle	1	9/16/2023 19:44	Go Explorer	Transit	220	200	Alter Course, Reduce Speed	
410	Unidentified Marine Mammal	1	9/16/2023 21:05	Go Explorer	Transit	70	45	Reduce Speed	
411	Short-beaked	14	9/17/2023 1:43	Go Explorer	Transit	15	1		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
	Common Dolphin								
412	Short-beaked Common Dolphin	6	9/17/2023 11:33	Go Explorer	Surveying	700	500		
413	Unidentified Dolphin	6	9/17/2023 11:57	Go Explorer	Surveying	1500	1500		
414	Humpback Whale	1	9/17/2023 12:48	Go Explorer	Line Change	2000	2000		
415	Unidentified Sea Turtle	1	9/17/2023 13:14	Go Explorer	Shutdown	50	60	Shutdown	
416	Loggerhead Sea Turtle	1	9/17/2023 14:22	Go Explorer	Surveying	60	30	Shutdown	
417	Loggerhead Sea Turtle	1	9/17/2023 14:30	Go Explorer	Surveying	50	50	Maintain speed and veer starboard	
418	Unidentified Sea Turtle	1	9/17/2023 15:09	Go Explorer	Surveying	150	150	"Turtle in forward path, vessel requested to maintain speed and veer port side"	
419	Loggerhead Sea Turtle	1	9/17/2023 16:26	Go Explorer	Non-PSO Shutdown	50	25	Alter Course, Reduce Speed, Shutdown	
420	Short-beaked Common Dolphin	11	9/18/2023 1:37	Go Explorer	Line Change	60	43		Yes

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
421	Loggerhead Sea Turtle	1	9/18/2023 1:44	Go Explorer	Shutdown	50	70	Reduce Speed, Shutdown	
422	Short-beaked Common Dolphin	2	9/18/2023 2:07	Go Explorer	Surveying	30	5		Yes
423	Loggerhead Sea Turtle	1	9/18/2023 6:07	Go Explorer	Non-PSO Shutdown	50	50		
424	Short-beaked Common Dolphin	9	9/18/2023 8:39	Go Explorer	Standby	5	1		
425	Short-beaked Common Dolphin	6	9/18/2023 9:18	Go Explorer	Standby	5	1		
426	Unidentified Mysticete Whale	3	9/18/2023 14:19	Go Explorer	Standby	2000	550	Alter Course, Reduce Speed	
427	Short-beaked Common Dolphin	3	9/20/2023 3:15	Go Explorer	Line Change	20	1		Yes
428	Short-beaked Common Dolphin	4	9/20/2023 9:11	Go Explorer	Surveying	10	3		Yes
429	Short-beaked	3	9/20/2023 14:14	Go Explorer	Surveying	50	1		Yes

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
	Common Dolphin								
430	Loggerhead Sea Turtle	1	9/20/2023 19:45	Go Explorer	Shutdown	100	60	Alter Course, Reduce Speed, Shutdown	
431	Loggerhead Sea Turtle	1	9/21/2023 7:36	Go Explorer	Shutdown	50	25	Shutdown, Other	
432	Loggerhead Sea Turtle	1	9/21/2023 7:55	Go Explorer	Shutdown	15	70	Shutdown, Other	
433	Loggerhead Sea Turtle	1	9/21/2023 9:16	Go Explorer	Shutdown	60	70	Shutdown, Other	
434	Fin Whale	2	9/21/2023 12:55	Go Explorer	Surveying	2000	1500		
435	Loggerhead Sea Turtle	2	9/21/2023 18:40	Go Explorer	Surveying	300	30	Alter Course, Reduce Speed, Shutdown	
436	Loggerhead Sea Turtle	1	9/21/2023 20:06	Go Explorer	Surveying	200	180		
437	Humpback Whale	1	9/22/2023 14:18	Go Explorer	Transit	800	500		
438	Bottlenose Dolphin	12	9/22/2023 21:02	Go Explorer	Transit	200	150		
439	Harbor Porpoise	1	9/23/2023 10:57	Go Explorer	Standby	15	15		
440	Unidentified Dolphin	5	9/23/2023 14:57	Go Explorer	Standby	40	40		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
441	Unidentified Dolphin	5	9/23/2023 16:12	Go Explorer	Standby	80	5		
442	Bottlenose Dolphin	15	9/25/2023 19:32	Go Explorer	Standby	80	40		
443	Bottlenose Dolphin	20	9/26/2023 20:14	Go Explorer	Standby	75	10		
444	Bottlenose Dolphin	8	9/27/2023 22:00	Go Explorer	Standby	200	100		
445	Bottlenose Dolphin	14	9/28/2023 16:26	Go Explorer	Standby	100	40		
445	Bottlenose Dolphin	14	9/28/2023 16:31	Go Explorer	Standby	300	40		
446	Minke Whale	1	9/30/2023 14:25	Go Explorer	Standby	400	150		
447	Unidentified Dolphin	2	10/2/2023 11:58	Go Explorer	Standby	80	80		
448	Bottlenose Dolphin	35	10/3/2023 19:03	Go Explorer	Transit	200	5		
449	Loggerhead Sea Turtle	1	10/4/2023 18:08	Go Explorer	Surveying	400	300		
450	Short-beaked Common Dolphin	5	10/7/2023 2:33	Go Explorer	Transit	40	1		
451	Short-beaked	3	10/9/2023 11:57	Go Explorer	Transit	20	2		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
	Common Dolphin								
452	Loggerhead Sea Turtle	1	10/9/2023 17:13	Go Explorer	Surveying	30	30		
453	Short-beaked Common Dolphin	3	10/13/2023 7:36	Go Explorer	Surveying	10	1		
454	Short-beaked Common Dolphin	10	10/13/2023 17:19	Go Explorer	Surveying	80	1		
455	Bottlenose Dolphin	8	10/16/2023 14:20	Go Explorer	Transit	60	5		
456	Bottlenose Dolphin	3	10/16/2023 15:09	Go Explorer	Transit	500	500		
457	Short-beaked Common Dolphin	2	10/18/2023 7:15	Go Explorer	Surveying	1	1		
458	Unidentified Sea Turtle	1	10/18/2023 12:47	Go Explorer	Surveying	600	500		
459	Bottlenose Dolphin	2	10/24/2023 21:41	Go Explorer	Transit	200	200		
460	Short-beaked Common Dolphin	15	10/30/2023 3:01	Go Explorer	Surveying	1	1		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
461	Short-beaked Common Dolphin	14	11/4/2023 22:10	Go Explorer	Surveying	100	1		
462	Short-beaked Common Dolphin	3	11/5/2023 5:18	Go Explorer	Surveying	3	1		
463	Short-beaked Common Dolphin	7	11/8/2023 21:23	Go Explorer	Deploying Equipment	15	5		
464	Short-beaked Common Dolphin	3	11/14/2023 4:26	Go Explorer	Transit	10	5		
465	Short-beaked Common Dolphin	2	11/15/2023 3:28	Go Explorer	Transit	10	5		
466	Short-beaked Common Dolphin	2	11/15/2023 5:12	Go Explorer	Transit	5	3		
467	Short-beaked Common Dolphin	1	11/21/2023 6:45	Go Explorer	Transit	10	2		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
468	Unidentified Dolphin	2	11/23/2023 7:07	Go Explorer	Transit	10	5		
469	Short-beaked Common Dolphin	8	11/26/2023 20:57	Go Explorer	Transit	20	1		
470	Short-beaked Common Dolphin	6	12/2/2023 12:48	Go Explorer	Transit	10	1		
471	Short-beaked Common Dolphin	8	12/2/2023 14:10	Go Explorer	Transit	30	1		
V1	Short-beaked Common Dolphin	4	2/20/2024 7:41	Go Pursuit	Deploying Equipment	50	15		
V2	Unidentified Dolphin	2	2/20/2024 8:34	Go Pursuit	Equipment Test	25	25		
V3	Unidentified Mysticete Whale	2	2/20/2024 19:28	Go Pursuit	Equipment Test	3345	3346		
V4	Bottlenose Dolphin	10	2/24/2024 15:42	Go Pursuit	Transit	600	500		
V5	Bottlenose Dolphin	6	2/24/2024 16:54	Go Pursuit	Transit	750	600		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
V6	Bottlenose Dolphin	20	2/24/2024 17:08	Go Pursuit	Transit	750	150		
V7	Fin Whale	1	2/25/2024 20:17	Go Pursuit	Equipment Test	1970	1970		
V8	Bottlenose Dolphin	14	3/12/2024 17:22	Go Pursuit	Transit	1700	100		
V9	Unidentified Mysticete Whale	1	3/12/2024 20:08	Go Pursuit	Transit	4000	4000		
V10	Gray Seal	1	3/12/2024 20:40	Go Pursuit	Transit	1300	350		
V11	Bottlenose Dolphin	3	3/12/2024 22:33	Go Pursuit	Other	750	700		
V12	Gray Seal	1	3/13/2024 14:05	Go Pursuit	Surveying	848	700		
V13	Short-beaked Common Dolphin	22	3/14/2024 12:18	Go Pursuit	Surveying	1467	500		
V14	Unidentified Mysticete Whale	1	3/14/2024 16:21	Go Pursuit	Line Change	1000	650		
V15	Minke Whale	1	3/14/2024 17:34	Go Pursuit	Surveying	1951	1900		
V16	Humpback Whale	1	3/14/2024 17:43	Go Pursuit	Surveying	358	358		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
V17	Humpback Whale	1	3/14/2024 18:17	Go Pursuit	Line Change	670	700		
V18	Sei Whale	1	3/14/2024 18:59	Go Pursuit	Surveying	650	290		
V19	Unidentified Mysticete Whale	1	3/15/2024 18:57	Go Pursuit	Surveying	800	800		
V20	Fin Whale	2	3/15/2024 19:27	Go Pursuit	Surveying	1179	300		
V21	Fin Whale	1	3/16/2024 11:36	Go Pursuit	Line Change	652	400		
V22	Harbor Porpoise	1	3/16/2024 13:53	Go Pursuit	Line Change	1722	1650		
V23	Short-beaked Common Dolphin	5	3/16/2024 14:01	Go Pursuit	Line Change	1951	1500		
V24	Unidentified Mysticete Whale	1	3/16/2024 19:35	Go Pursuit	Retrieving Equipment	2003	2050		
V25	Unidentified Dolphin	23	3/17/2024 12:09	Go Pursuit	Deploying Equipment	2674	2250		
V26	Short-beaked Common Dolphin	25	3/17/2024 14:00	Go Pursuit	Surveying	2003	360		
V27	Gray Seal	1	3/17/2024 14:15	Go Pursuit	Surveying	400	380		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
V28	Unidentified Mysticete Whale	1	3/17/2024 21:39	Go Pursuit	Surveying	2312	2311		
V29	Gray Seal	1	3/18/2024 11:02	Go Pursuit	Surveying	200	200		
V30	Sei Whale	2	3/18/2024 12:07	Go Pursuit	Surveying	663	660		
V31	Unidentified Dolphin	8	3/18/2024 17:21	Go Pursuit	Line Change	1398	1450		
V32	Bottlenose Dolphin	7	3/18/2024 18:56	Go Pursuit	Surveying	955	450		
V33	Unidentified Mysticete Whale	2	3/18/2024 19:52	Go Pursuit	Surveying	2003	1400		
V34	Unidentified Mysticete Whale	1	3/18/2024 22:14	Go Pursuit	Surveying	2312	2003		
V35	Unidentified Mysticete Whale	2	3/19/2024 12:24	Go Pursuit	Line Change	3316	3315		
V36	Gray Seal	1	3/19/2024 18:15	Go Pursuit	Surveying	550	250		
V37	Humpback Whale	1	3/19/2024 20:32	Go Pursuit	Line Change	1398	1250		
V38	Unidentified Mysticete Whale	1	3/19/2024 21:40	Go Pursuit	Surveying	2300	2350		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
V39	Unidentified Dolphin	2	3/21/2024 10:57	Go Pursuit	Deploying Equipment	50	50		
V40	Humpback Whale	1	3/21/2024 20:25	Go Pursuit	Line Change	1951	1900		
V41	Unidentified Dolphin	15	3/22/2024 12:01	Go Pursuit	Surveying	1922	1000		
V42	Gray Seal	1	3/22/2024 12:14	Go Pursuit	Line Change	350	300		
V43	Harbor Seal	1	3/22/2024 13:17	Go Pursuit	Line Change	400	200		
V44	Bottlenose Dolphin	65	3/22/2024 17:04	Go Pursuit	Surveying	1722	600		
V45	Harbor Porpoise	1	3/27/2024 17:54	Go Pursuit	Line Change	1467	1500		
V46	Gray Seal	1	3/28/2024 13:25	Go Pursuit	Line Change	200	250		
V47	Humpback Whale	1	3/28/2024 14:49	Go Pursuit	Other	250	120	Alter Course	
V48	Bottlenose Dolphin	2	3/28/2024 17:38	Go Pursuit	Line Change	125	110		
V49	Humpback Whale	1	3/29/2024 22:00	Go Pursuit	Surveying	1212	1000		
V50	Unidentified Mysticete Whale	1	3/30/2024 11:55	Go Pursuit	Surveying	834	834		
V51	Humpback Whale	1	3/30/2024 12:34	Go Pursuit	Deploying Equipment	200	250		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
V52	Short-beaked Common Dolphin	8	3/30/2024 14:40	Go Pursuit	Surveying	1398	750		
V53	Unidentified Mysticete Whale	1	3/31/2024 15:54	Go Pursuit	Surveying	2003	1700		
V54	Gray Seal	1	5/4/2024 22:16	Go Pursuit	Transit	648	648		
V55	Unidentified Dolphin	2	5/17/2024 9:30	Go Pursuit	Transit	201	201		
V56	Unidentified Dolphin	2	5/17/2024 13:51	Go Pursuit	Transit	459	459		
V57	Unidentified Dolphin	3	5/17/2024 19:21	Go Pursuit	WOW	666	665		
V58	Unidentified Dolphin	4	5/17/2024 19:43	Go Pursuit	WOW	464	150		
V59	Unidentified Dolphin	10	5/17/2024 20:46	Go Pursuit	Line Change	464	400		
V60	Humpback Whale	1	5/25/2024 15:10	Go Pursuit	Surveying	800	800		
V61	Other	1	5/25/2024 15:56	Go Pursuit	Surveying	800	30	Alter Course, Reduce Speed	
V62	Humpback Whale	2	5/26/2024 10:50	Go Pursuit	Surveying	2719	2719		
V63	Humpback Whale	3	6/1/2024 10:31	Go Pursuit	Line Change	1201	1000		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
V64	Humpback Whale	2	6/1/2024 15:33	Go Pursuit	Surveying	1500	1500		
V65	Atlantic Sturgeon	1	6/1/2024 15:40	Go Pursuit	Surveying	800	800		
V66	Minke Whale	1	6/1/2024 16:08	Go Pursuit	Line Change	852	150	Alter Course, Reduce Speed	
V67	Humpback Whale	3	6/1/2024 17:10	Go Pursuit	Line Change	1184	600		
V68	Humpback Whale	1	6/1/2024 19:00	Go Pursuit	Line Change	2942	2942		
V69	Minke Whale	1	6/1/2024 19:04	Go Pursuit	Line Change	100	100	Reduce Speed	
V70	Humpback Whale	2	6/1/2024 20:40	Go Pursuit	Surveying	1959	1959		
V71	Humpback Whale	2	6/1/2024 21:33	Go Pursuit	Surveying	356	356		
V72	Atlantic White-sided Dolphin	250	6/2/2024 18:13	Go Pursuit	Surveying	540	100		
V73	Green Sea Turtle	1	6/3/2024 14:42	Go Pursuit	Surveying	10	2	Alter Course	
V74	Bottlenose Dolphin	35	6/3/2024 16:47	Go Pursuit	Transit	547	500		
V75	Bottlenose Dolphin	3	6/5/2024 20:22	Go Pursuit	Transit	300	150		
V76	Bottlenose Dolphin	2	6/5/2024 22:14	Go Pursuit	Transit	150	100		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
V77	Unidentified Dolphin	2	6/9/2024 2:15	Go Pursuit	Transit	10	3	Reduce Speed	
V78	Unidentified Dolphin	5	6/9/2024 2:36	Go Pursuit	Transit	25	3	Alter Course, Reduce Speed	
V79	Sei Whale	2	6/9/2024 12:50	Go Pursuit	Transit	860	860		
V80	Short-beaked Common Dolphin	10	6/9/2024 13:18	Go Pursuit	Transit	212	3	Reduce Speed	
V81	Unidentified Mysticete Whale	1	6/9/2024 13:21	Go Pursuit	Transit	1977	1970		
V82	Loggerhead Sea Turtle	1	6/9/2024 13:58	Go Pursuit	Transit	673	670		
V83	Sei Whale	1	6/9/2024 15:56	Go Pursuit	Transit	860	670		
V84	Humpback Whale	2	6/9/2024 15:56	Go Pursuit	Transit	860	670		
V85	Minke Whale	1	6/12/2024 22:38	Go Pursuit	Line Change	352	250	Reduce Speed	
V86	Short-beaked Common Dolphin	6	6/13/2024 16:17	Go Pursuit	Transit	200	200		
V87	Bottlenose Dolphin	3	6/13/2024 16:50	Go Pursuit	Transit	658	600		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
V88	Unidentified Dolphin	1	6/13/2024 17:03	Go Pursuit	Transit	350	350		
V89	Bottlenose Dolphin	3	6/16/2024 9:29	Go Pursuit	Transit	213	213		
V90	Unidentified Sea Turtle	1	6/16/2024 9:34	Go Pursuit	Transit	100	100		
V91	Leatherback Sea Turtle	1	6/16/2024 12:17	Go Pursuit	Transit	100	100	Alter Course	
V92	Short-beaked Common Dolphin	28	6/16/2024 21:30	Go Pursuit	Surveying	1940	1500		
V93	Humpback Whale	3	6/17/2024 10:32	Go Pursuit	Line Change	1986	1985		
V94	Short-beaked Common Dolphin	20	6/17/2024 10:32	Go Pursuit	Line Change	1986	1985		
V95	Short-beaked Common Dolphin	5	6/17/2024 10:32	Go Pursuit	Line Change	70	70		
V96	Short-beaked Common Dolphin	6	6/17/2024 12:33	Go Pursuit	Line Change	552	500		
V97	Loggerhead Sea Turtle	1	6/17/2024 14:54	Go Pursuit	Line Change	100	100		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
V98	Loggerhead Sea Turtle	1	6/17/2024 15:56	Go Pursuit	Surveying	150	150		
V99	Loggerhead Sea Turtle	1	6/17/2024 16:01	Go Pursuit	Surveying	150	175		
V100	Short-beaked Common Dolphin	8	6/17/2024 16:08	Go Pursuit	Surveying	100	1		
V101	Short-beaked Common Dolphin	20	6/17/2024 17:15	Go Pursuit	Line Change	150	1		
V102	Loggerhead Sea Turtle	1	6/17/2024 19:53	Go Pursuit	Line Change	100	75		
V103	Loggerhead Sea Turtle	1	6/17/2024 20:29	Go Pursuit	Surveying	150	125		
V104	Loggerhead Sea Turtle	1	6/17/2024 22:09	Go Pursuit	Line Change	15	2	Alter Course	
V105	Loggerhead Sea Turtle	1	6/18/2024 16:05	Go Pursuit	Surveying	50	50		
V106	Loggerhead Sea Turtle	1	6/18/2024 16:50	Go Pursuit	Surveying	658	658		
V107	Unidentified Sea Turtle	1	6/18/2024 20:44	Go Pursuit	Surveying	352	350		
V108	Loggerhead Sea Turtle	1	6/18/2024 21:05	Go Pursuit	Line Change	182	40	Alter Course	

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
V109	Short-beaked Common Dolphin	4	6/18/2024 21:22	Go Pursuit	Surveying	500	2		
V110	Short-beaked Common Dolphin	17	6/19/2024 12:50	Go Pursuit	Surveying	469	1		
V111	Loggerhead Sea Turtle	1	6/19/2024 15:35	Go Pursuit	Line Change	300	250	Alter Course	
V112	Short-beaked Common Dolphin	4	6/19/2024 15:36	Go Pursuit	Line Change	200	1		
V113	Unidentified Dolphin	30	6/19/2024 16:02	Go Pursuit	Surveying	2660	2660		
V114	Loggerhead Sea Turtle	1	6/19/2024 16:03	Go Pursuit	Surveying	200	10	Alter Course	
V115	Loggerhead Sea Turtle	1	6/19/2024 16:34	Go Pursuit	Line Change	459	300		
V116	Unidentified Dolphin	20	6/19/2024 16:34	Go Pursuit	Line Change	658	658		
V117	Loggerhead Sea Turtle	1	6/19/2024 16:37	Go Pursuit	Line Change	658	520		
V118	Loggerhead Sea Turtle	1	6/19/2024 17:14	Go Pursuit	Deploying Equipment	658	400		
V119	Unidentified Sea Turtle	1	6/19/2024 19:43	Go Pursuit	Surveying	540	540		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
V120	Short-beaked Common Dolphin	30	6/20/2024 11:13	Go Pursuit	Line Change	1986	1985		
V121	Bottlenose Dolphin	4	7/25/2024 15:25	Go Pursuit	Transit	250	50		
V122	Bottlenose Dolphin	1	7/25/2024 15:41	Go Pursuit	Transit	100	100		
V123	Bottlenose Dolphin	8	7/25/2024 16:16	Go Pursuit	Transit	600	300		
V124	Unidentified Mysticete Whale	1	7/25/2024 21:15	Go Pursuit	Transit	873	500	Alter Course, Reduce Speed	
V125	Short-beaked Common Dolphin	8	7/26/2024 13:41	Go Pursuit	WOW	250	2		
V126	Short-beaked Common Dolphin	20	7/26/2024 17:47	Go Pursuit	Line Change	1049	1		
V127	Short-beaked Common Dolphin	6	7/26/2024 18:53	Go Pursuit	Line Change	296	75		
V128	Fin Whale	4	7/26/2024 19:24	Go Pursuit	Surveying	1970	550		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
V129	Fin Whale	1	7/26/2024 20:45	Go Pursuit	Surveying	1959	1000		
V130	Humpback Whale	1	7/26/2024 20:47	Go Pursuit	Surveying	289	250		
V131	Humpback Whale	1	7/26/2024 20:47	Go Pursuit	Surveying	319	300		
V132	Fin Whale	2	7/26/2024 21:21	Go Pursuit	Line Change	2700	2670		
V133	Humpback Whale	2	7/26/2024 21:22	Go Pursuit	Line Change	2275	2275		
V134	Fin Whale	1	7/27/2024 14:34	Go Pursuit	Surveying	1049	682		
V135	Loggerhead Sea Turtle	1	7/27/2024 17:01	Go Pursuit	Other	281	281		
V136	Loggerhead Sea Turtle	1	7/27/2024 19:05	Go Pursuit	Deploying Equipment	100	100		
V137	Loggerhead Sea Turtle	1	7/27/2024 19:37	Go Pursuit	Deploying Equipment	271	215		
V138	Loggerhead Sea Turtle	1	7/27/2024 20:44	Go Pursuit	Line Change	125	125		
V139	Fin Whale	1	7/27/2024 21:40	Go Pursuit	Line Change	2312	1212		
V140	Short-beaked Common Dolphin	25	7/27/2024 21:47	Go Pursuit	Line Change	1438	2		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
V141	Fin Whale	1	7/27/2024 22:10	Go Pursuit	Ramp-up	1500	1500		
V142	Minke Whale	1	7/27/2024 22:23	Go Pursuit	Line Change	500	500		
V143	Short-beaked Common Dolphin	4	7/28/2024 2:40	Go Pursuit	Equipment Test	30	2		Yes
V144	Loggerhead Sea Turtle	1	7/28/2024 8:44	Go Pursuit	Line Change	25	10	Detection Delay	
V145	Short-beaked Common Dolphin	15	7/28/2024 9:52	Go Pursuit	Equipment Test	200	2		Yes
V146	Unidentified Sea Turtle	1	7/28/2024 11:09	Go Pursuit	Equipment Test	668	670		
V147	Minke Whale	1	7/28/2024 11:27	Go Pursuit	Line Change	245	270		
V148	Loggerhead Sea Turtle	1	7/28/2024 13:53	Go Pursuit	Equipment Test	100	100	Shutdown	
V149	Loggerhead Sea Turtle	1	7/28/2024 14:53	Go Pursuit	Line Change	50	100	Detection Delay	
V150	Loggerhead Sea Turtle	1	7/28/2024 15:00	Go Pursuit	Line Change	327	325	Detection Delay	
V151	Loggerhead Sea Turtle	1	7/28/2024 16:32	Go Pursuit	Equipment Test	100	125	Detection Delay, Reduce Speed	

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
V152	Loggerhead Sea Turtle	1	7/28/2024 16:36	Go Pursuit	Equipment Test	125	150	Detection Delay	
V153	Loggerhead Sea Turtle	1	7/28/2024 16:39	Go Pursuit	Equipment Test	75	75	Detection Delay	
V154	Loggerhead Sea Turtle	1	7/28/2024 16:45	Go Pursuit	Equipment Test	166	185	Detection Delay	
V155	Loggerhead Sea Turtle	1	7/28/2024 17:14	Go Pursuit	Equipment Test	350	250	Detection Delay	
V156	Loggerhead Sea Turtle	1	7/28/2024 17:21	Go Pursuit	Equipment Test	200	200	Detection Delay	
V157	Loggerhead Sea Turtle	1	7/28/2024 17:33	Go Pursuit	Line Change	150	175	Detection Delay	
V158	Loggerhead Sea Turtle	1	7/28/2024 17:37	Go Pursuit	Line Change	365	365	Detection Delay	
V159	Loggerhead Sea Turtle	1	7/28/2024 18:02	Go Pursuit	Line Change	358	358	Detection Delay	
V160	Loggerhead Sea Turtle	1	7/28/2024 18:11	Go Pursuit	Line Change	50	50	Detection Delay	
V161	Loggerhead Sea Turtle	1	7/28/2024 18:12	Go Pursuit	Line Change	250	250	Detection Delay	
V162	Loggerhead Sea Turtle	1	7/28/2024 18:27	Go Pursuit	Line Change	561	506		
V163	Loggerhead Sea Turtle	1	7/28/2024 18:40	Go Pursuit	Line Change	30	30	Detection Delay	
V164	Loggerhead Sea Turtle	1	7/28/2024 18:56	Go Pursuit	Line Change	365	100	Detection Delay	

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
V165	Loggerhead Sea Turtle	1	7/28/2024 19:05	Go Pursuit	Line Change	296	75	Detection Delay	
V166	Loggerhead Sea Turtle	1	7/28/2024 19:49	Go Pursuit	Line Change	100	125	Detection Delay	
V167	Loggerhead Sea Turtle	1	7/28/2024 21:36	Go Pursuit	Deploying Equipment	100	100	Detection Delay	
V168	Loggerhead Sea Turtle	1	7/28/2024 23:30	Go Pursuit	Equipment Test	5	3	Shutdown	
V169	Unidentified Dolphin	2	7/29/2024 6:05	Go Pursuit	Shutdown	15	50	Shutdown	
V170	Unidentified Sea Turtle	1	7/29/2024 6:56	Go Pursuit	Line Change	125	120		
V171	Short-beaked Common Dolphin	8	7/29/2024 7:18	Go Pursuit	Surveying	30	2		Yes
V172	Short-beaked Common Dolphin	10	7/29/2024 8:04	Go Pursuit	Surveying	25	25		Yes
V173	Short-beaked Common Dolphin	8	7/29/2024 13:11	Go Pursuit	Surveying	561	2		Yes
V174	Unidentified Mysticete Whale	1	7/29/2024 15:55	Go Pursuit	Retrieving Equipment	857	857		

Detection ID	Species	No. of Animals	Detection Date and Time (UTC)	Vessel	Vessel Activity ¹⁸	Initial Detection Distance (m)	Closest Point of Approach (CPA)	Mitigation Measures	Potential Take
V175	Unidentified Sea Turtle	1	7/30/2024 9:47	Go Pursuit	WOW	80	80		
V176	Loggerhead Sea Turtle	1	7/30/2024 11:31	Go Pursuit	WOW	5	2	Engine Neutral, Reduce Speed	
V177	Bottlenose Dolphin	2	7/30/2024 16:38	Go Pursuit	WOW	186	50		
V178	Atlantic Sturgeon	1	7/30/2024 22:57	Go Pursuit	WOW	500	500		

Appendix B.

LLW Geophysical Survey Entangled Protected Species Observation

**Invenergy: Leading Light Wind
Fugro, R/V Go Explorer**

OCS-A 0542

Incident Report: Short-beaked common dolphin entanglement

Sighting Date: 20 September 2023

Report Date: 05 October 2023

Observer's full name: Diana Velasco

Reporter's full name: Henry Lewis

Species Identification: Short-beaked common dolphins

Name and type of platform: R/V Go Explorer

Position of vessel at time of sighting: 39°14'18.7"N 73°28'59.7"W

Date animal observed: 20 September 2023

Time animal observed: 14:14 UTC

Date animal collected: N/A

Time animal collected: N/A

Environmental conditions at time of observation: Environmental conditions were good with a sea state of 2 with 1-2 knot winds coming from the northwest.

Water temperature (°C) and depth (m/ft) at site: Water temperature not collected. Water depth 47 meters.

Description of sighting event:

On 20 September 2023 at 14:14 UTC, three short-beaked common dolphins were observed 50 meters from the vessel's port bow, at a bearing of 330 degrees, with a heading of 135 degrees. The dolphins were swimming and porpoising towards the vessel at a moderate pace. The three short-beaked common dolphins had their closest point of approach to the vessel of one meter at 14:14 UTC. From first detection until 14:17 UTC the dolphins were milling and swimming adjacent to the vessel's port beam. At 14:17 UTC, the three dolphins were observed off the vessel's port beam swimming away from the vessel at a vigorous pace and joining a pod of seven dolphins observed 150 meters from the vessel's port quarter, at a bearing of 255 degrees, with a heading of 225 degrees. At 14:17 UTC, the pod of 10 dolphins had their closest point of approach to the vessel at 150 meters. The pod of 10 dolphins, three from the first detection in conjunction to the seven later detected, were last observed 180 meters from the vessel's port quarter, at a bearing of 225 degrees, with a heading of 240 degrees. When they entered the 50 meters separation distance and a vessel strike avoidance maneuver of maintaining speed and course was successfully implemented.

The dolphin entanglement was not observed until a secondary review of photos occurred on 05 October 2023. A piece of yellow marine debris was observed wrapped around a short-beaked common dolphins right flipper and trailing behind approximately one to two feet. During the detection there were no behavioral indications of injury. The timestamp on the photos indicates that the individual was among the three dolphins observed at the initial detection.



Figure 1: The short-beaked common dolphin with marine debris entangled on its right flipper.

Photograph/Video taken: Yes - Photograph

If Yes, was the data provided to NMFS? No, photos were not requested during the phone notification.

Date and Time reported to NMFS Stranding Hotline: Call placed on 05 October 2023 at 23:45 UTC. No answer. Notification made on 06 October 2023 at 13:20 UTC by Ben Finkes, shore-based project manager for RPS/Tetra Tech PSO team.

Marine Mammal Information: (please designate cm/m or inches)

Species: Short-beaked common dolphins

Length: ~2 meter

Weight (kg or lbs): N/A

Sex: N/A

Confidence of Species Identification: Certain

Description of Identification Characteristics: Relatively robust body with a fall falcate dorsal fin midway along its back. Distinct hourglass/criss-cross pattern on sides with a tan forward patch and light gray flank patch, with a whitish underbelly.

Genetic samples collected: No

Genetics samples transmitted to: N/A

Fate of Marine Mammal: Swam away from the vessel.

Description of Injuries Observed: No injuries observed.

Other Remarks/Drawings: N/A

