

Draft Technical Report for Marine Mammal Monitoring and Mitigation during ExxonMobil Alaska LNG LLC. 2015 Alaska LNG Project Geophysical & Geotechnical Program in Cook Inlet

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Executive Summary

Smultea Environmental Sciences, LLC. (Smultea Sciences) was contracted by Fugro Pelagos Inc. (Fugro) to provide Protected Species Observer (PSO) services to ExxonMobil Alaska LNG LLC. (EMALL) during EMALL's Cook Inlet Geophysical & Geotechnical Surveys. Survey operations took place in Cook Inlet, began August 26, 2015 and continued until October 19th with demobilization on October 20th, 2015. One vessel, the *R/V Qualifier 105*, operated during the surveys. PSOs monitored from the vessel during all daylight survey operations and most daylight non-survey operations. The total PSO monitoring effort for the project was 611.4 hr, including 448.0 hr during survey effort and 163.4 hr during non-survey activity.

A total of 63 sightings (i.e. groups) consisting of 85 estimated individuals were recorded between August 26 and October 19, 2015. Marine mammal sightings included 1 sighting of a single harbor porpoise (1 individual), 21 sightings of harbor seals (21 individuals), 6 sightings of humpback whales (15 individuals), and 35 sightings of sea otters (48 individuals). Of these total sightings, nine occurred during survey operations, including 1 harbor porpoise and 8 harbor seals.

Mitigation measures identified in the Incidental Harassment Authorization (IHA) were incorporated into the PSO field protocol and implemented during the survey. Prior to starting survey operations from a shutdown lasting more than 10 minutes (min), the full Exclusion Zone (EZ) and Disturbance Zone (DZ) was monitored for marine mammals for 30 min. No shut down procedures were implemented since no marine mammals approached or entered the applicable zones.

A total of six marine mammals were confirmed visually within the Level B (160 dB) DZ, resulting in six potential Level B exposures. There were no marine mammals observed within the Level A exposure zones.

On October 5, 2015, a harbor seal carcass was observed in a state of advanced decomposition. A stranding report was submitted to NMFS for this observation (which was unrelated to Project activities) on October 6, 2015, within 24 hours of the sighting.

As required by National Marine Fisheries Service (NMFS), weekly and monthly reports were submitted during the survey. The reports summarized operations, total number of sightings, behavioral reactions, weather and sea conditions, number and type of mitigation measures implemented per sighting, and the number of exposures per species (corresponding to the number of individuals seen within the EZ and DZ).

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Acronyms and Abbreviations

4MP	Marine Mammal Mitigation and Monitoring Program
BMP	Best Management Practices
Bft	Beaufort Sea State
CPA	Closest Point of Approach
DZ	Disturbance Zone
EMALL	ExxonMobil Alaska LNG LLC.
ESA	Endangered Species Act
EZ	Exclusion Zone
G&G	Geophysical and Geotechnical
HSE	Health Safety and Environment
IHA	Incidental Harassment Authorization
ITS	Incidental Take Statement
LNG	Liquefied Natural Gas
MLLW	Mean Lower Low Water
MMPA	Marine Mammal Protection Act
MWCP	Marine Wildlife Contingency Plan
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Agency
POC	Point of Contact
PSO	Protected Species Observer
USFWS	U.S. Fish and Wildlife Service

1 Introduction

The National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) issued ExxonMobil Alaska LNG LLC. (EMALL) an Incidental Harassment Authorization (IHA) on August 14, 2015, under the authority of section 101(a)(5)(D) of the Marine Mammal Protection Act (16 U.S.C. 1361 *et seq.*) to harass small numbers of marine mammals, by Level B harassment, incidental to the 2015 Alaska LNG Project Geophysical & Geotechnical Program in Cook Inlet, Alaska, hereafter EMALL's 2015 Cook Inlet G&G Surveys. NMFS's IHA authorized a small number of takes from August 14, 2015-August 13, 2016 for the following species: beluga whale (*Delphinapterus leucas*), killer whale (*Orcinus orca*), harbor porpoise (*Phocoena phocoena*), and harbor seal (*Phoca vitulina*).

Smultea Environmental Sciences, LLC. (Smultea Sciences) was contracted by Fugro Pelagos, Inc. (Fugro) to provide Protected Species Observer (PSO) services to EMALL during EMALL's Cook Inlet G&G surveys. PSOs' responsibilities included monitoring for protected marine species (e.g., marine mammals) and implementing mitigation measures to avoid and minimize potential adverse impacts to marine mammals from the use of geophysical equipment, which included a sub-bottom chirp, sub-bottom boomer and a small airgun. Although geotechnical surveying with a vibrocore was planned and permitted in the IHA, no vibrocore operations occurred during EMALL's Cook Inlet G&G Surveys.

EMALL's Cook Inlet G&G Surveys began on August 26, 2015 and continued until October 19th with demobilization on October 20th, 2015. This draft 90-day technical report presents information required by the IHA with regards to survey operations/activities, marine mammal monitoring and mitigation measures implemented according to the IHA and Incidental Take Statement (ITS).

2 Summary of Survey Activities

The project area for EMALL's Cook Inlet G&G Surveys was in Cook Inlet waters between Beluga on the west side of the inlet to Nikiski and Kenai on the east side (Figure 1). A total of 1,206.52 line kilometers of survey lines were completed during the 2015 season. Mobilization of the project vessel began in late August in Homer and demobilization occurred in late October after project completion. From August 26 through October 19, 2015, G&G data acquisition was conducted from the primary source vessel, the *R/V Qualifier 105*, which is 105 feet in length (Figure 2).

Geophysical data was collected using three geophysical systems:

- 1) Small airgun 0.983 L (60 in³) with multichannel digital streamer
- 2) Boomer sub-bottom profiler with multichannel digital streamer
- 3) Spread spectrum (chirp) sub-bottom profiler

While geotechnical data collection using a vibrocore was planned and authorized under the IHA, ultimately vibrocore operations did not occur. Thus only operations that utilized the three geophysical systems referenced above are covered in this report.

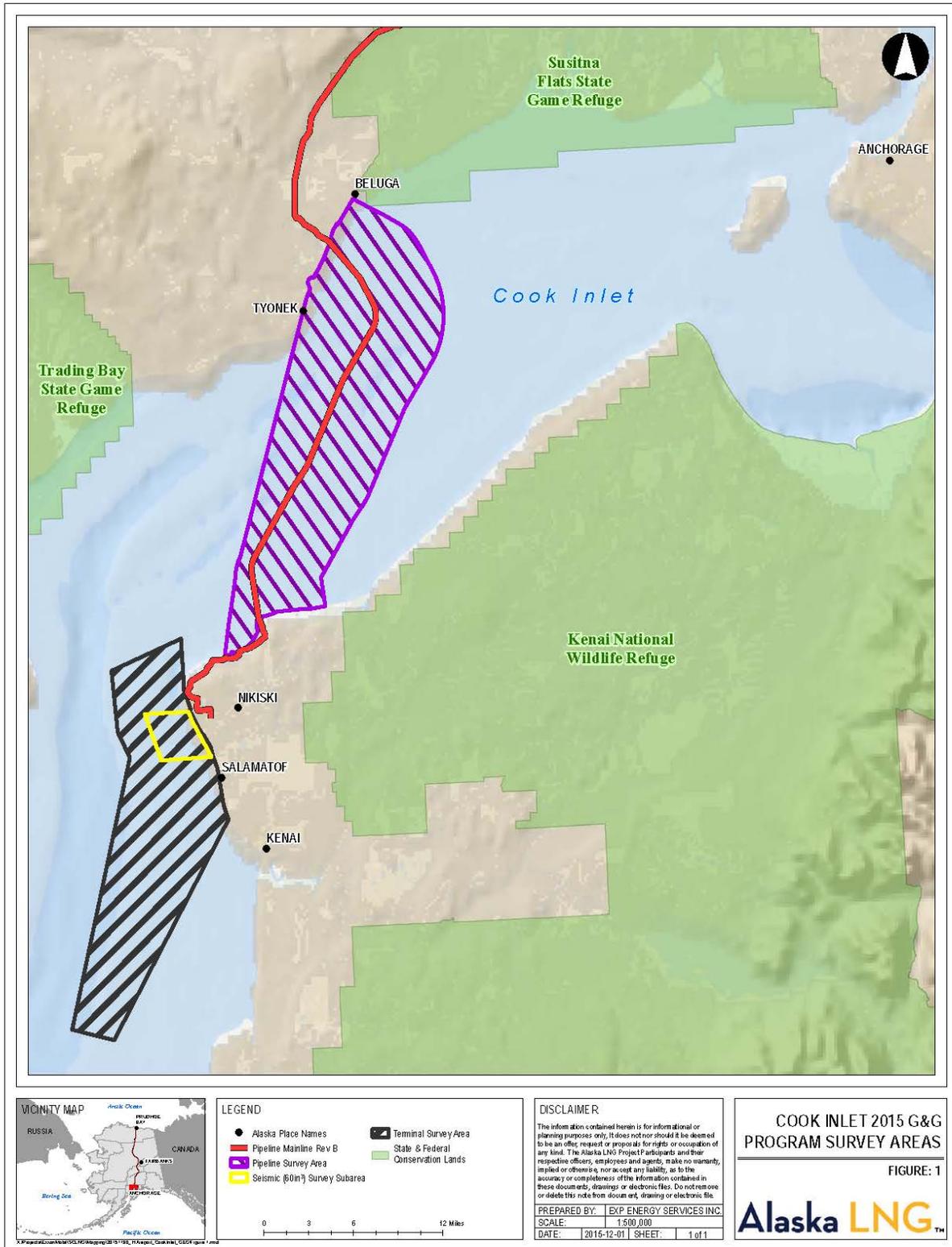


Figure 1. Planned survey area for EMALL's Cook Inlet 2015 G&G Program.



Figure 2. R/V Qualifier 105.

3 Marine Mammal Monitoring and Mitigation Program

This section describes the marine mammal monitoring and mitigation measures implemented to address requirements specified in the NMFS-issued IHA.

3.1 *Protected Species Observers*

EMALL's *Cook Inlet G&G Surveys* deployed trained vessel-based Protected Species Observers (PSOs) for marine mammal monitoring and mitigation. The PSO team had two primary areas of responsibility:

- 1) **Monitoring:** Recording numbers, behavior, and locations of marine mammals both during, and in absence of, G&G survey activity. Documenting animal reactions (when applicable). Documenting selected environmental variables that may affect the ability to sight marine mammals.
- 2) **Mitigation:** Detecting marine mammals within, or about to enter, the applicable Exclusion Zone (EZ) and initiating immediate shutdown or power down of the geophysical equipment. Using visual monitoring to estimate the number of marine mammals potentially exposed to geophysical equipment sounds at specified levels.

All PSOs had previous experience in marine mammal research and/or monitoring and their credentials were provided to NMFS prior to the start of their field observations for the project. PSOs were trained on specific project details and requirements, and were provided with sighting information for marine mammals occurring in the project area prior to going to the project site.

3.2 *Visual Observations*

Two PSOs were stationed on the source vessel to watch for marine mammals prior to, during, and after G&G activity. Observations also occurred during periods when G&G activity did not occur. PSOs on the vessel rotated observation shifts every 2-4 hours to effectively monitor the project area, implement mitigation measures, and avoid observer fatigue. Observations occurred during all daylight hours prior to, during, and after G&G operations, unless precluded by weather conditions (e.g., fog, ice, high sea states). Vessel-based observers watched for marine mammals from the best available vantage point on the bridge of the *R/V Qualifier 105*. While on watch, PSOs systematically scanned the area around the vessel during all vessel activities in a sweeping pattern: usually alternating scan sweeps between reticle binoculars (Fujinon™ 7 × 50) and the unaided eye. Long-range binoculars (40x80) were made available to PSOs however not utilized due to the difficulty of stabilization on a moving vessel. Observations focused forward and to the sides of the vessel in an arc of ~180° as well as regular monitoring behind the vessel to cover 360°.

3.3 *Exclusion/Disturbance Zones and Monitoring Program*

Exclusion Zones (EZ) and Disturbance Zones (DZ) are identified in the NMFS-issued IHA and were applied under the project Marine Mammal Mitigation and Monitoring Plan, as proposed in the project IHA application. EZs are based on current NMFS guidelines (e.g., 65 FR 16374) indicating that the EZ for marine mammals around G&G operations are defined as the distances within which received pulse levels are ≥ 180 dB for cetaceans and ≥ 190 dB for pinnipeds. These criteria assume that in water sound pulses at lower received levels will not injure these animals (e.g., impair their hearing ability), but that higher received levels could potentially have such effects. In addition, NMFS assumes that marine mammals exposed to ≥ 160 dB (rms) are potentially subject to behavioral disturbance and thus defines the 160 dB (rms) as the DZ. Marine mammals observed in their respective DZ were reported as a potential Level B exposures to NMFS in weekly and monthly reports.

Under the MMPA, NMFS has defined two levels of harassment for marine mammals:

- 1) Level A harassment is defined as "...any act of pursuit, torment, or annoyance which has the potential to injure a marine mammal or marine mammal stock in the wild."
- 2) Level B harassment is defined as "...any act of pursuit, torment, or annoyance which has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering."

Prior to the start of survey operations, PSOs established and cleared the following EZ and DZ for a period of 30 minutes:

- 190 dB Level A for pinnipeds;
- 180 dB Level A for cetaceans; and
- 160 dB Level B for all marine mammals.

If any marine mammal was observed within or approaching their respective EZ or DZ, operations did not commence until the mammal either left the EZ/DZ or was not seen for 30 minutes. PSOs established these same monitoring zones (EZ and DZ) of 190 dB, 180 dB, and 160 dB for the chirp, boomer, and airgun (Table 1).

Table 1. PSO monitoring Exclusion & Disturbance Zones in meters (m) for G&G equipment implemented during EMALL's Cook Inlet G&G 2015 Surveys.

Type	Model	Operating Frequency (kHz)	Source Level ⁴ (dB re 1 μ Pa-m [rms])	Exclusion Zone (EZ) Radii		Disturbance Zone (DZ) Radii
				Pinnipeds Level A 190 dB radius m (ft)	Cetaceans Level A 180 dB radius m (ft)	Marine Mammals Level B 160 dB radius m (ft)
Sub-bottom profiler – (Chirp)	EdgeTech™ 3200	2-16 ¹	202 ⁵	5 (16)	6 (20)	184(604)
Sub-bottom profiler – (Boomer)	Applied Acoustics™ AA301	0.5-6 ²	205 ⁵	7 (23)	23 (75)	263 (863)
Airgun	0.983 L (60 in ³)	<1 ²	206 ⁶	8 (26)	26 (85)	300 (984)

¹Source: Manufacturer brochure. ²Source: Richardson et al. 1995. ³Source: Chorney et al. 2011. ⁴rms = root mean square. ⁵Manufacturer provided peak value converted to rms (using a -10 dB offset). ⁶O'Neill et al. 2010

3.4 Survey Mitigation Measures

3.4.1 Shutdown

A *shutdown* procedure was defined as implementation of the full stop of all geophysical survey equipment due to a marine mammal sighting within or closely approaching their respective EZ. However, since no marine mammals were observed approaching their respective EZs, no shut down procedures were necessary.

3.4.2 Poor Visibility and Night Conditions

Marine geophysical surveys were permitted to continue into night and low-light hours if the survey was initiated when the entire EZ and DZ could effectively be monitored visually. No initiation of G&G survey operations was permitted following a shutdown at night or during low-light conditions (heavy fog or rain).

3.4.3 Vessel Strike Avoidance

If a marine mammal was observed within 275 m (300 yards) of the vessel, vessel operators and crews were to slow down, change direction, stop their vessel, and/or disengage vessel engines as directed by PSOs (or during other occasions as relevant) to avoid close encounters that could result in striking protected species, unless safety concerns overrule these measures. The use of speed or course alteration was permitted during survey operations if a marine mammal, based on its position and relative motion, appeared likely to enter the relevant EZ. If speed or course alteration was not safe or practicable, or if after alteration the marine mammal still appeared likely to enter the EZ, further mitigation measures, such as a shutdown, could be taken.

When marine mammals were sighted near the vessel within 45 m (50 yards) while the vessel was underway, the vessel captain was requested to:

- Attempt to remain parallel to the animal's course.
- Avoid excessive speed or abrupt changes in direction until the animal(s) was beyond this distance, as applicable.
- If the marine mammal was observed in the vessel's path, vessel speed would be reduced and the engine shifted to neutral if the vessel path could not be changed to avoid the marine mammal. Engines could not be re-engaged until the marine mammal(s) was clear of the distance identified above.

4 Marine Mammal Monitoring and Mitigation Analyses

Data analysis methods and estimates of the number of marine mammals exposed to survey operations during EMALL's Cook Inlet G&G Surveys are presented below (for definitions see Table 2).

Table 2. Definitions of data collection and analysis terminology.

Survey Effort	Periods when at least one PSO was on watch while survey equipment (i.e. chirp, boomer, airgun) were operating from the source vessel.
Non-Survey Effort	Periods when no survey equipment (i.e. chirp, boomer, airgun) were operating.
Group (i.e., Sighting)	One or more individuals seen close together and coordinated in a similar manner (e.g., coordinated surfacing, orientation, etc.).
Sighting Rate	The number of marine mammal groups (or individuals) seen per hour of PSO effort, separated by sightings occurring within the survey area and outside the survey area.

4.1 Effort and Sighting Summary Methods

PSO effort and data included all sightings and effort during both survey and non-survey periods. Data on the number of marine mammal sightings are presented to the species level whenever possible in species summary tables.

Marine mammal movement relative to the vessel, as well as initial and secondary behavior states/events were recorded for each marine mammal sighting based on pre-defined protocol and ethograms provided to the PSOs. Initial behaviors included swim, look, dive, sink, rest, surface active, mill, and unknown/other. Behaviors specific to sea otters included float/rest, travel/swim, and pup on mom. These behavioral descriptions followed those described in numerous other 90-day reports associated with geophysical survey operations (e.g., Aerts et al. 2008; Bleses et al. 2010; Lomac-MacNair et al. 2013).

The distribution of sightings relative to the source vessel was assessed using several variables including bearing and distance, initial and subsequent re-sight distances, and Closest (observed) Point of Approach (CPA) of the animal(s) to the source vessel.

4.2 Methods for Calculating Sighting Rates Sightings

Sighting rates of marine mammals were calculated as the number of groups seen per hour of effort. Hours were used for this analysis because distance (i.e., km) was not considered appropriate in this case, given the survey lines were spaced closely together in the small region. Sighting rates for both survey and non-survey activities were calculated based on the sighting and effort data collected during these pre-defined periods (survey and non-

survey). Sighting rates were separated by species observed within and outside the survey area.

4.3 *Methods for Estimating Number of Exposures*

NMFS and U.S. Fish and Wildlife Service (USFWS) consider exposures of cetaceans and pinnipeds to anthropogenic received sound levels ≥ 160 dB (rms) to be a “take by harassment” (Level B harassment) that could potentially result in disturbance of these animals (NMFS 2005, 71 FR 50027). The number of potential exposures during EMALL’s Cook Inlet G&G Surveys was based on direct observations/counts of cetaceans and pinnipeds within the DZ during geophysical survey activities.

5 Results

5.1 Monitoring Effort and Environmental Conditions

5.1.1 Monitoring Effort

The total PSO monitoring effort for the project was 611.4 hr, including 448.0 hr (73 %) during survey effort and 163.4 hr (27 %) during non-survey activity (Table 3). The chirp, boomer and airgun often were in operation simultaneously, thus the total effort hours are smaller than the sum of the hours with individual operating equipment (Table 4).

Table 3. Total number of PSO monitoring survey and non-survey effort hours and km.

Survey Effort	Non-Survey Effort	Total
448 hr	163.4 hr	611.4 hr
3168.6 km	873.6 km	4042.2 km

Table 4. PSO Monitoring effort (hr and km) by G&G equipment survey type.

G&G Equipment	PSO Effort (hr)	PSO Effort (km)
Chirp	447:46:57	3167.937
Boomer	280:17:27	2054.753
Airgun	109:02:01	842.536

5.1.2 Environmental Conditions

In general, the environmental conditions were conducive to appropriately monitor marine mammals during EMALL's Cook Inlet G&G Surveys. Overall the Beaufort Sea State (Bft) ranged from 1-3 with the occasional Bft 4-7 (Figure 3). PSO monitoring effort occurred most during Bft 2 (34%) followed by Bft 3 (25%) and Bft 1 (23%). Beaufort Sea State was at a Bft 2 or less ~56-59% of the PSO monitoring effort. Visibility was greater than 3 km ~87-88% of the time and glare was 25% or less ~98-99% of the time. Cook Inlet was ice free during the period that the survey activity took place. If weather conditions were poor (i.e. beyond a Bft 6) survey activity could not be initiated from a full shut down of survey equipment until conditions improved and were more conducive for monitoring effort.

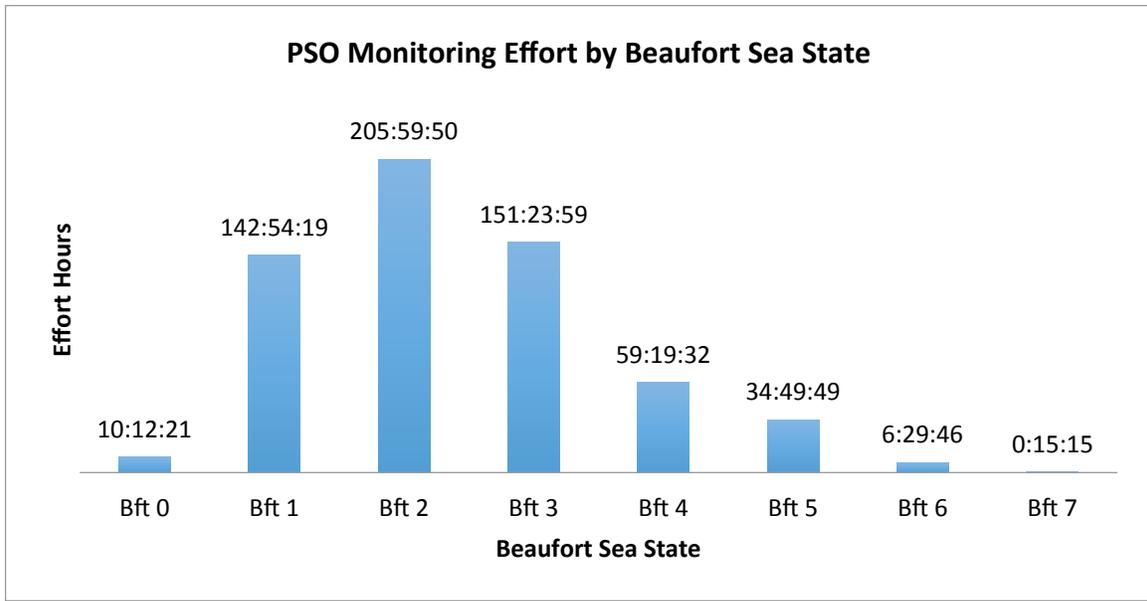


Figure 3. PSO monitoring effort by Beaufort Sea State.

5.1.3 Effort Tracklines

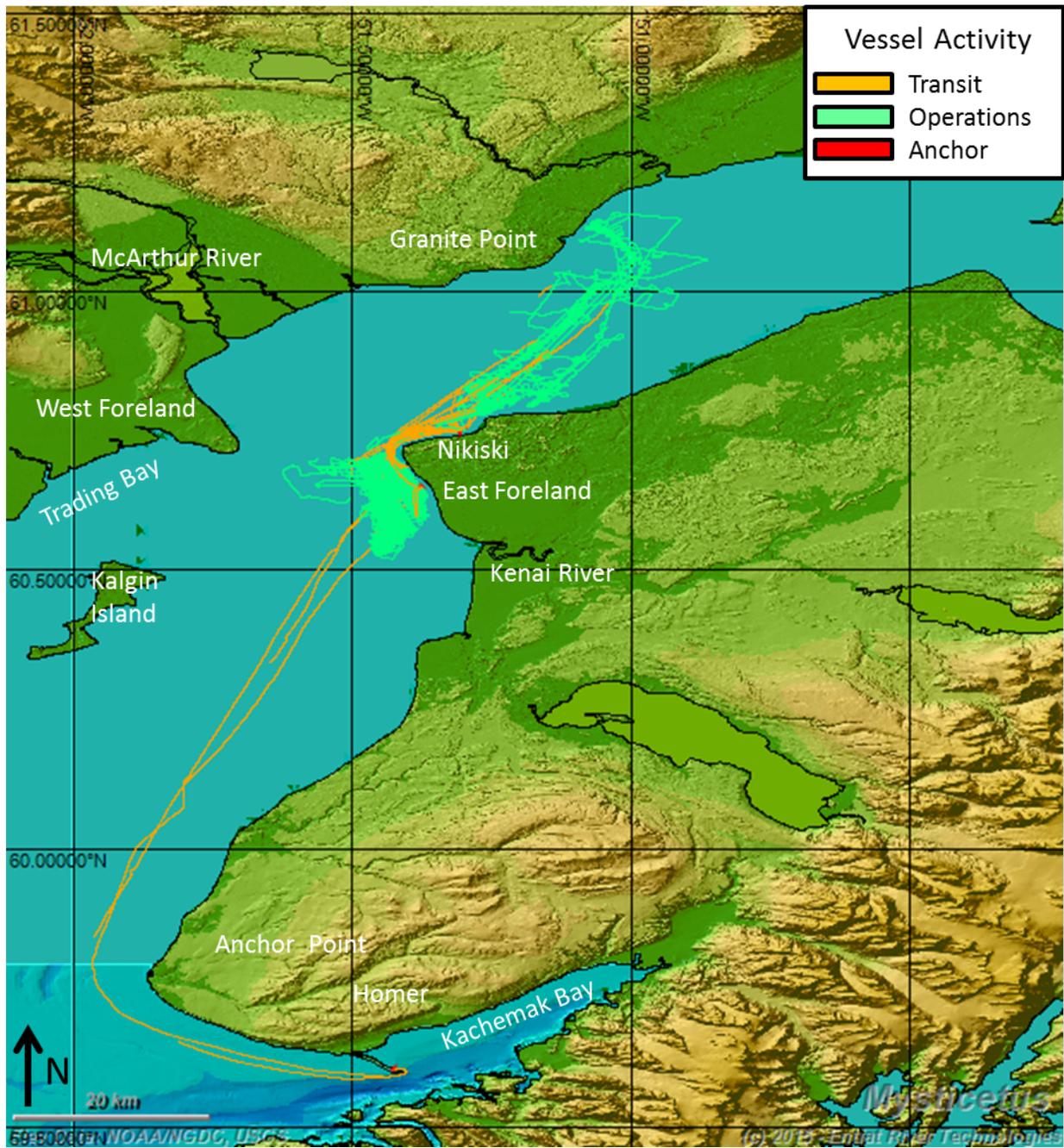


Figure 4. Qualifier 105 tracklines during the PSO monitoring effort for the Cook Inlet 2015 G&G Survey Program.

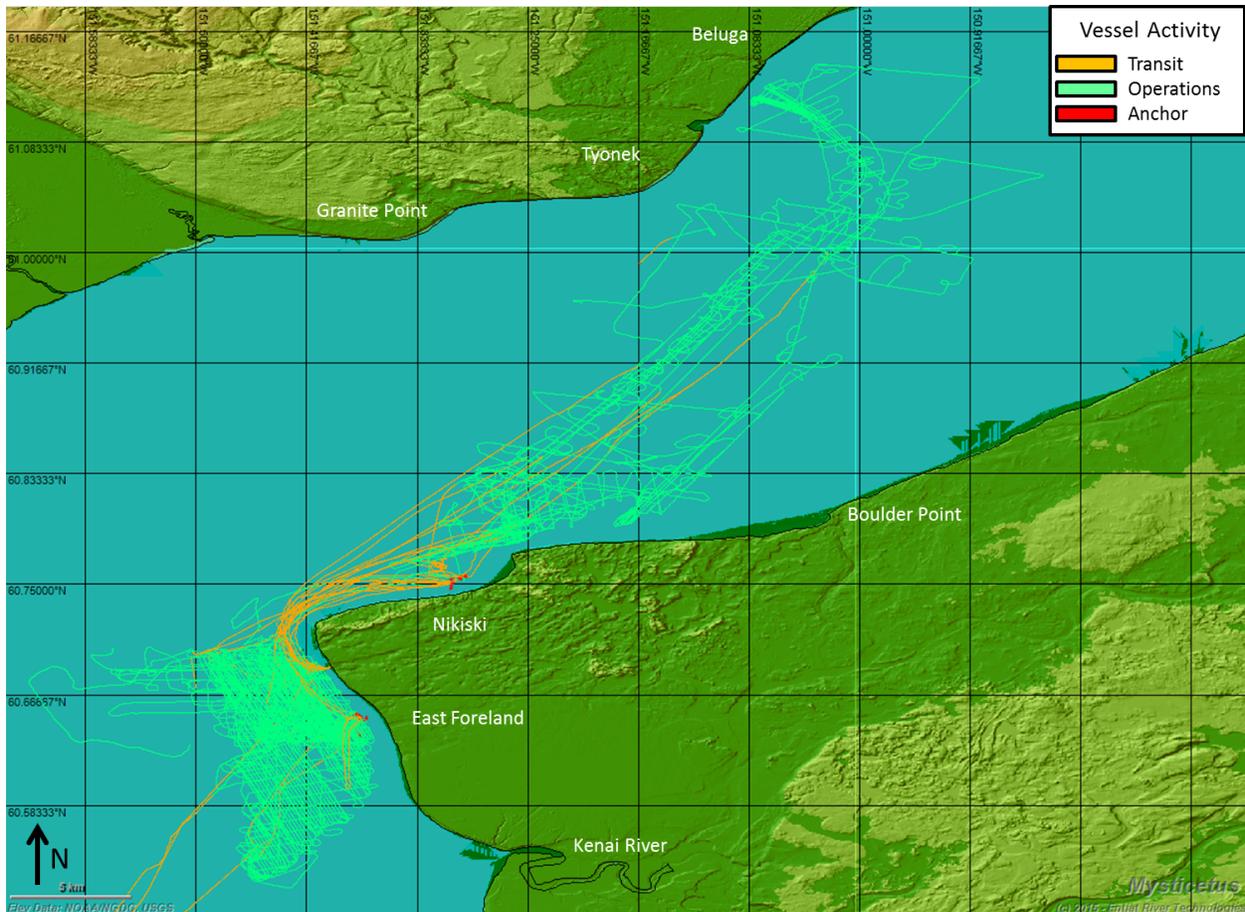


Figure 5. Qualifier 105 tracklines (zoomed into survey area) during the PSO monitoring effort for the Cook Inlet 2015 G&G Survey Program.

5.2 Visual Observations

5.2.1 Marine Mammal Sightings

During EMALL's Cook Inlet G&G Surveys, there were a total of 63 sightings consisting of 85 estimated individuals (**Table 5** Figure 6). Marine mammal sightings included 1 sighting of a single harbor porpoise (1 individual), 21 sightings of harbor seals (21 individuals) (**Figure 7**), 6 sightings of humpback whales (15 individuals), and 35 sightings of sea otters (48 individuals) (**Table 5**, Figure 6). During survey operations, there were a total of nine sightings including 1 harbor porpoise and 8 harbor seals (**Table 5**, Figure 6). Sightings of humpback whales and sea otters were observed exclusively during transit to/from Kachemak Bay and Homer (outside of the survey areas; **Figure 8**). Five of the 21 harbor seal sightings were observed while on anchor at the Port of Homer in Kachemak Bay (**Figure 8**).

Of the 63 total sightings, 9 occurred during survey periods (i.e. when the chirp, boom or airgun was being operated), including 1 harbor porpoise and 8 harbor seals (Table 6). The remaining 54 sightings occurred during non-survey periods. Behavioral reactions were recorded for six harbor seals; all reactions included looking at the vessel. There were no other reactions observed (Table 6).

Table 5. Total number of marine mammal sightings and individuals observed during survey and non-survey periods for EMALL's Cook Inlet G&G Surveys.

Species Common Name	Species Scientific Name	Number of Sightings*	Estimated No. of Individuals Observed
Harbor Porpoise	<i>Phocoena phocoena</i>	1	1
Harbor Seal	<i>Phoca vitulina</i>	21	21
Humpback Whale	<i>Megaptera novaeangliae</i>	6	15
Sea Otter	<i>Enhydra lutris</i>	35	48
Total		63	85

*One sighting equals one group

Table 6. Total number of sightings and marine mammal behavior during survey and non-survey periods for EMALL's Cook Inlet G&G Surveys.

Species	No. Sightings during Non-Survey Activity (163.4 effort hr)	No. Sightings during Survey Activity (448.0 effort hr)	Total No. of Sightings	No. Behavioral Reactions	Type of Behavioral Reactions
Harbor Porpoise	0	1	1	0	NA
Harbor Seal	13	8	21	6	Look
Humpback Whale	6	0	6	0	NA
Sea Otter	35	0	35	0	NA
Total	54	9	63	6	NA

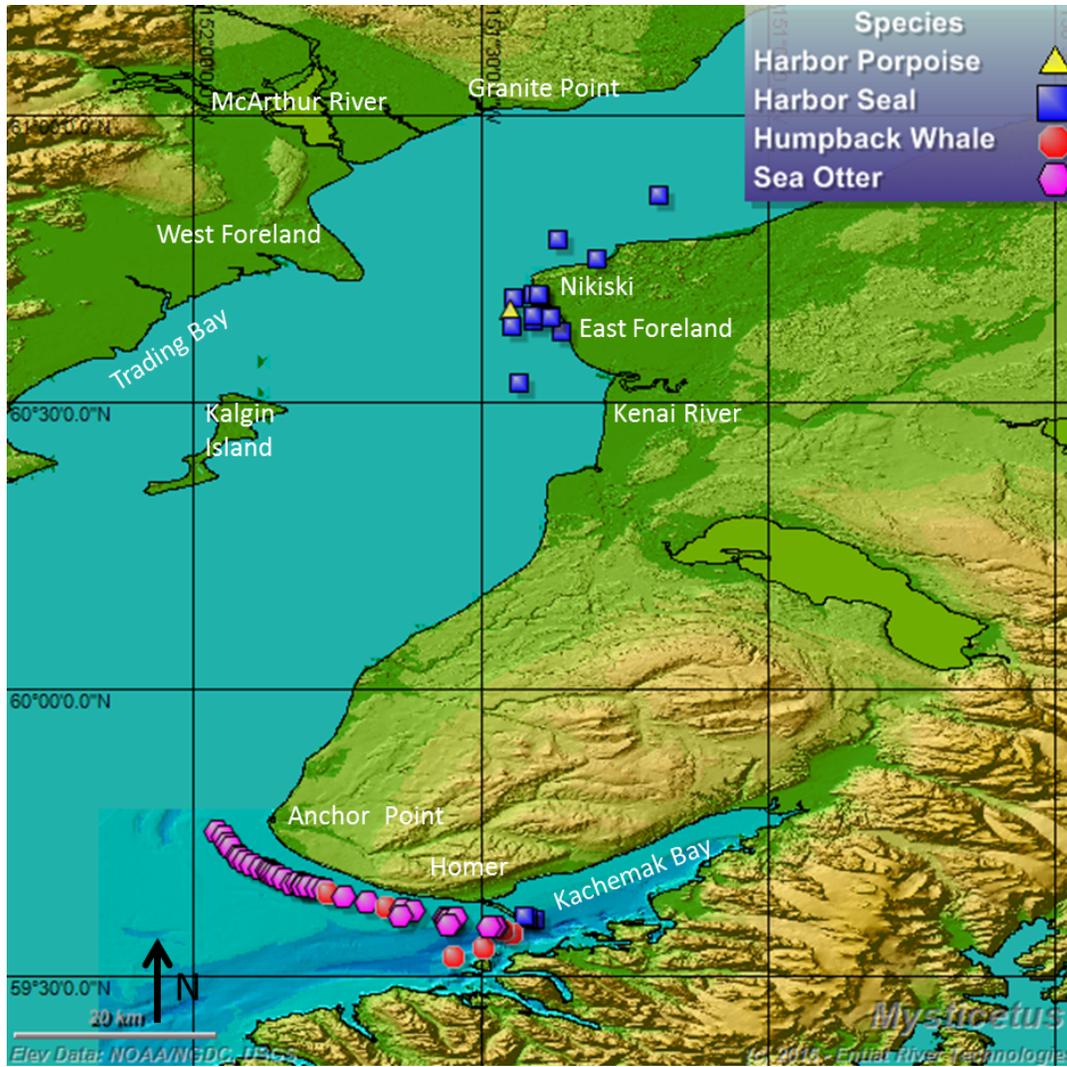


Figure 6. Marine mammal sightings during survey and non-survey periods for EMALL's Cook Inlet G&G Surveys.

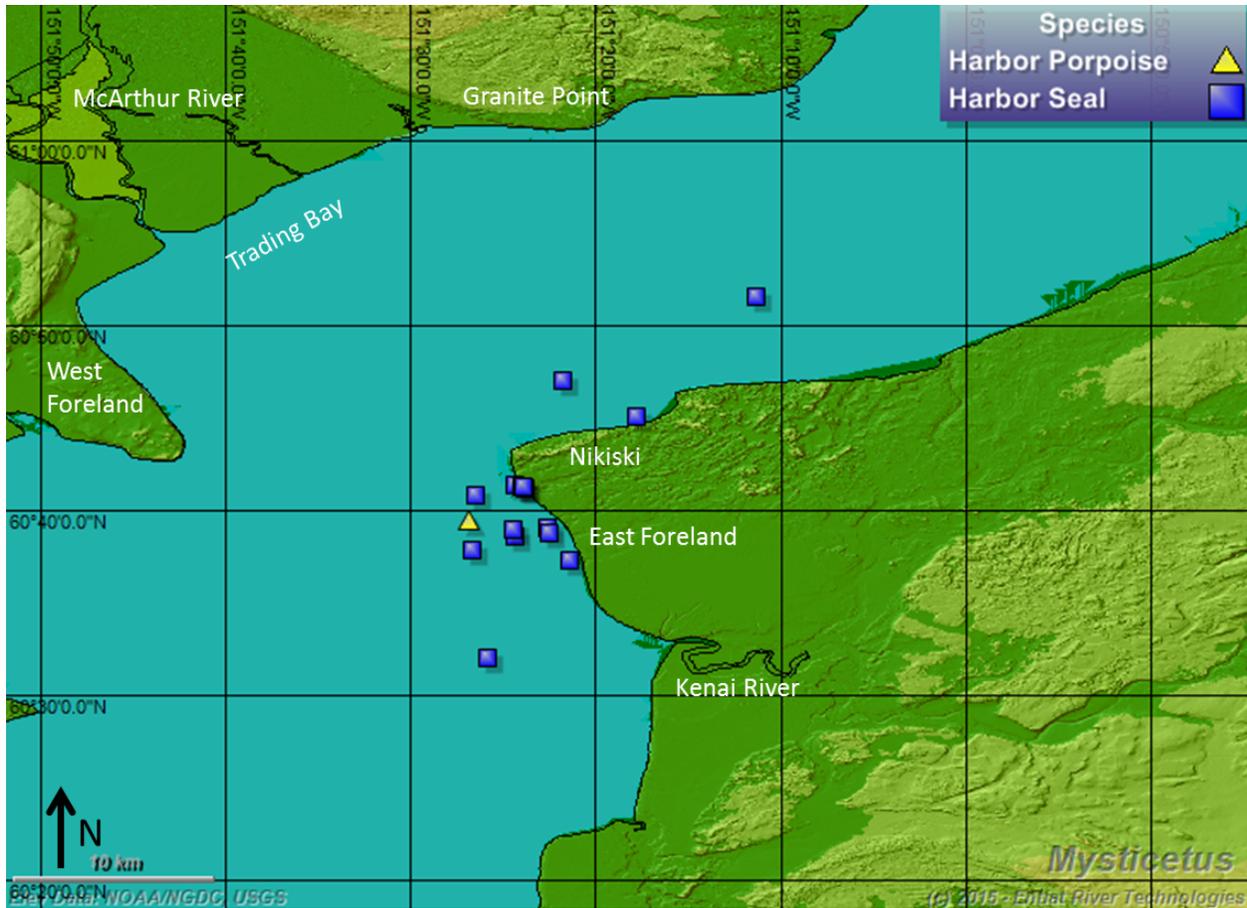


Figure 7. Harbor porpoise (yellow) and harbor seal (blue) sightings near East Foreland (Nikiski) during EMALL's Cook Inlet G&G Surveys (within the survey area)

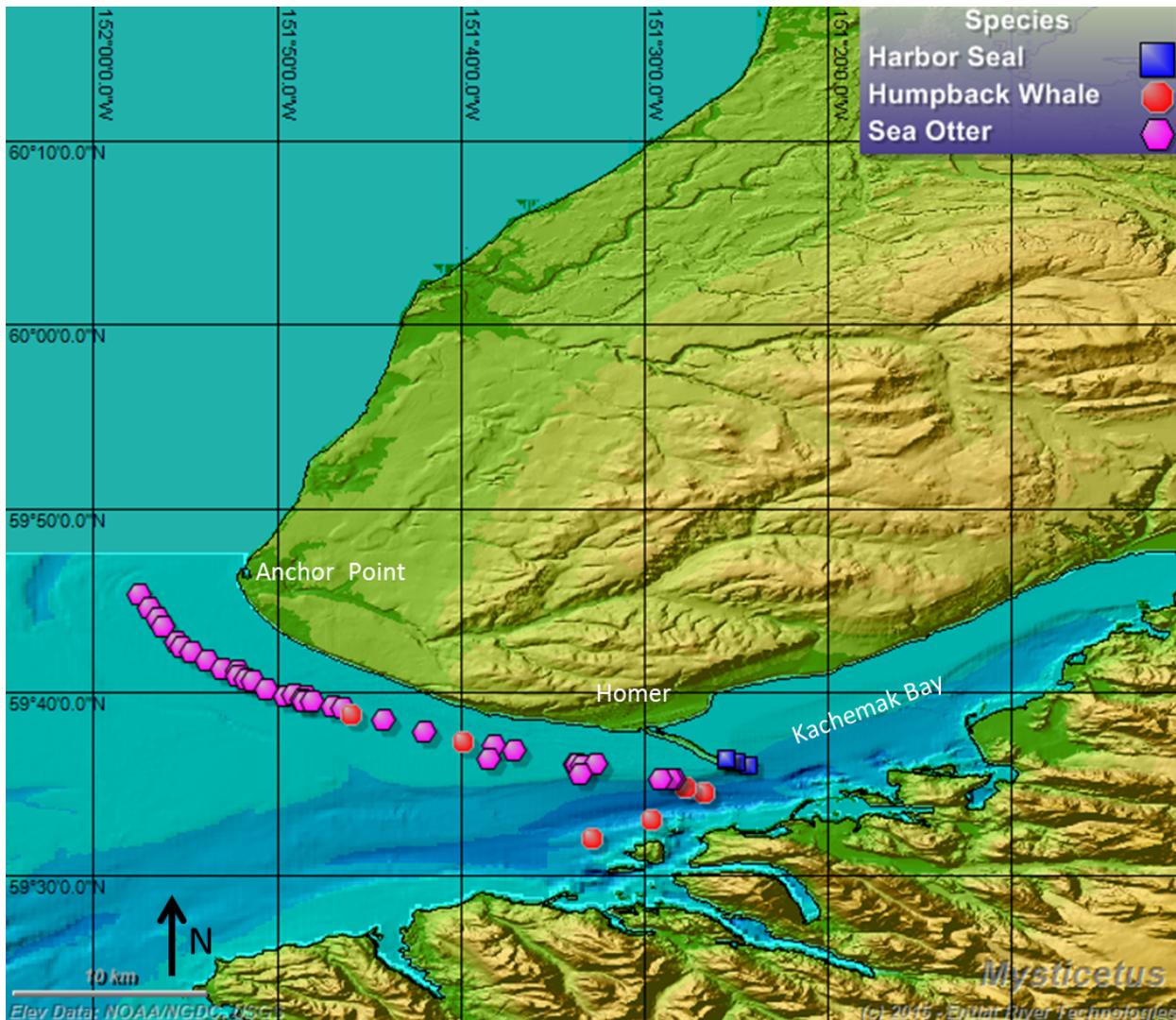


Figure 8. Marine mammal sightings including harbor seal (blue), humpback whale (red), and sea otter (pink) observed during transit to/from Kachemak Bay and Homer during EMALL's Cook Inlet G&G Surveys (outside the survey area).

5.2.2 Marine Mammal Sighting Rates

All sea otter and humpback whale sightings occurred during transit to and from the survey areas or while on anchor when at port (i.e. near Kachemak Bay; Figure 8). There were no sea otter or humpback whale sightings within the survey area (Figure 8). Of the 21 total harbor seal sightings, 5 occurred outside the survey area while on anchor at port (Figure 8). Sighting rates were separated by within the survey area and outside the survey area.

5.2.2.1 Sighting Rates Within Survey Area

Within the survey area sighting rates were highest for harbor seals (0.026 sighting/hr) followed by harbor porpoise (0.002 sighting/hr) (Table 7; Figure 9). Harbor seal sighting rates were greater during periods of non-survey activity than during periods of survey activity. No other species occurred during periods of both survey and non-survey activity which precluded a comparative analysis.

Table 7. Total number of sightings during applicable activities (chirp, boomer or airgun), and sighting rates (sighting/hr) during survey and non-survey PSO effort during EMALL's Cook Inlet G&G Surveys.

Species	No. Sightings during Non-Survey Activity (163.4 effort hrs)	Sighting Rate during Non-Survey Activity	No. Sightings during Survey Activity (448.0 effort hrs)	Sighting Rate during Survey Activity	Total No. Sightings (Survey and Non-Survey Activity (611.4 effort hrs)	Overall Sighting Rate
Harbor Porpoise	0	0.000	1	0.002	1	0.002
Harbor Seal	8	0.049	8	0.018	16	0.026
Total	8	0.049	9	0.020	17	0.028

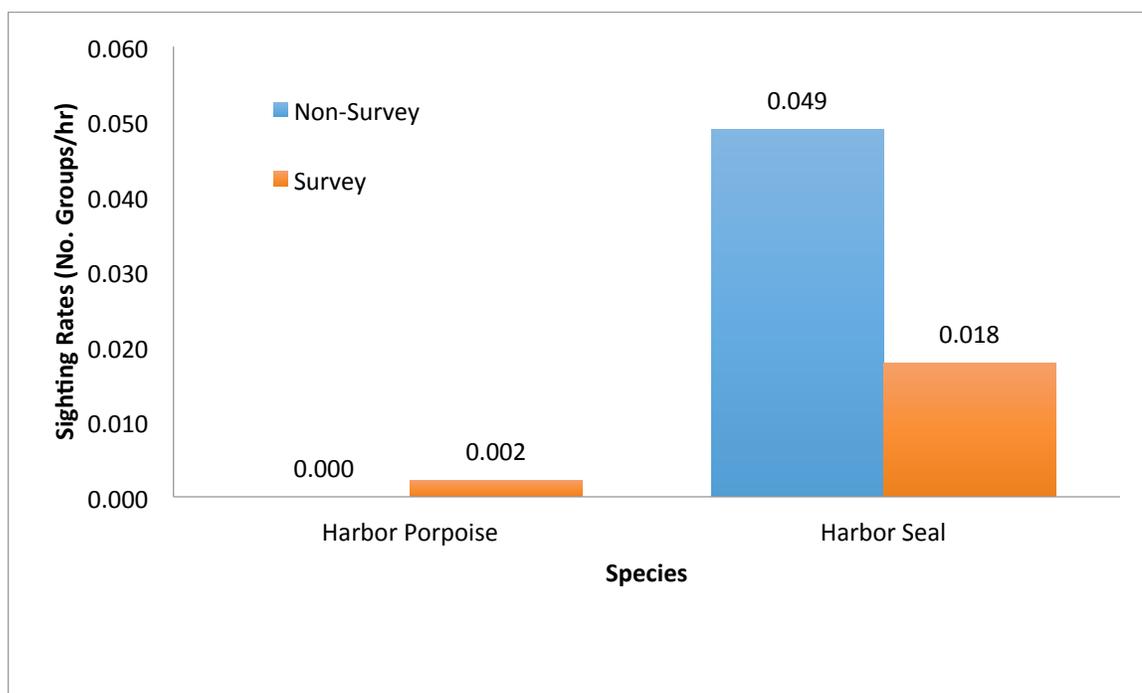


Figure 9. Sighting rates (number of sightings per effort hour) for all marine mammals during survey and non-survey periods observed within the survey area.

5.2.2.2 Sighting Rates Outside Survey Area

Outside the survey area sighting rates were highest for sea otters (0.214 sighting/hr) followed by humpback whales (0.037 sighting/hr) and harbor seals (0.031 sighting/hr; Figure 10).

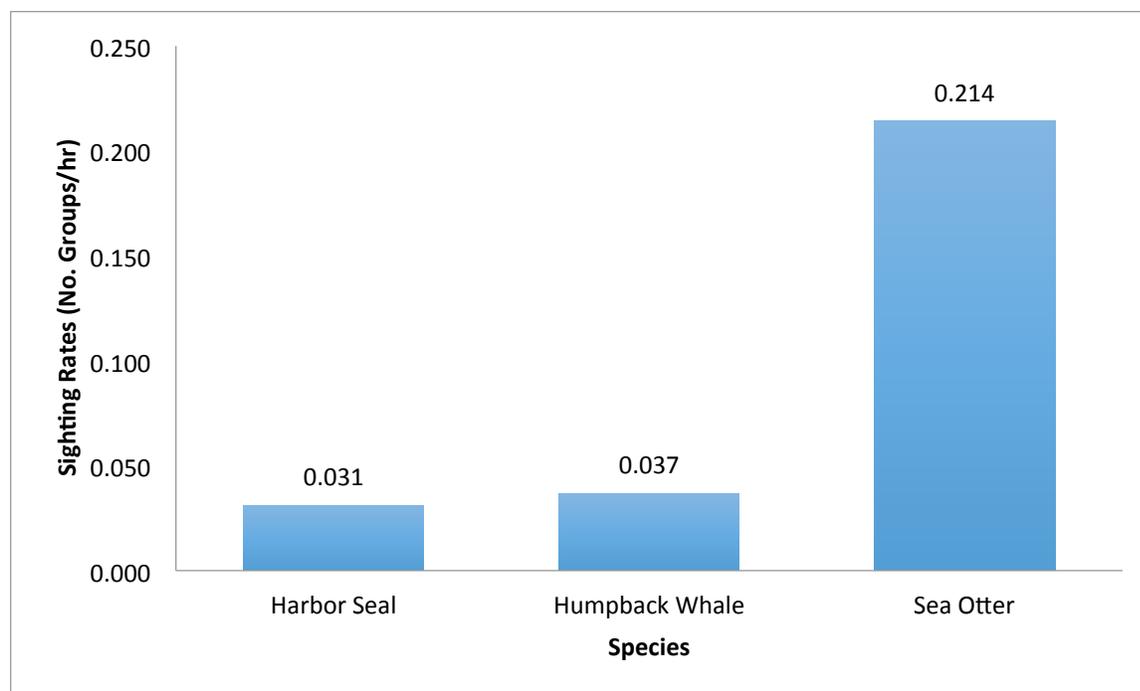


Figure 10. Sighting rates (number of sightings per effort hour) for marine mammals observed outside the survey area.

5.2.3 Marine Mammal Behavior

Behavior, sightings, and sighting rates by survey and non-survey periods are described separately below for harbor porpoise, harbor seals, humpback whales, and sea otters. Behavior was recorded for 50 sightings (79%) of the total 63 marine mammal sightings (i.e. groups) observed. No behavior was recorded for the remaining 13 sightings (21%), because behavior was difficult to determine for distant sightings or because viewing conditions were limited at the time (e.g., high Bf sea state).

5.2.3.1 Harbor Porpoise

A single harbor porpoise was observed during survey activity. The behavior state observed for the harbor porpoise was travel. There was no behavioral reaction observed.

5.2.3.2 Harbor Seal

A total of 21 harbor seal sightings (21 individuals) were observed during EMALL's Cook Inlet G&G Surveys. Of the 21 total sightings, 13 (62%) were observed during non-survey periods. Behavior states observed during non-survey periods included mill (3 sightings, 3 individuals), rest (1 sighting, 1 individual), surface active-mill (1 sighting, 1 individual), travel (1 sighting, 1 individual), unknown (1 sighting, 4 individuals) and dead (1 sighting, 1 individual; Figure 11)

A total of 8 sightings (38%) occurred during survey periods. Behavior states observed during survey periods included rest (1 sighting, 1 individual), surface active-travel (1 sighting, 1 individual), travel (1 sighting, 1 individual), and unknown (5 sightings, 5

individuals; Figure 11).

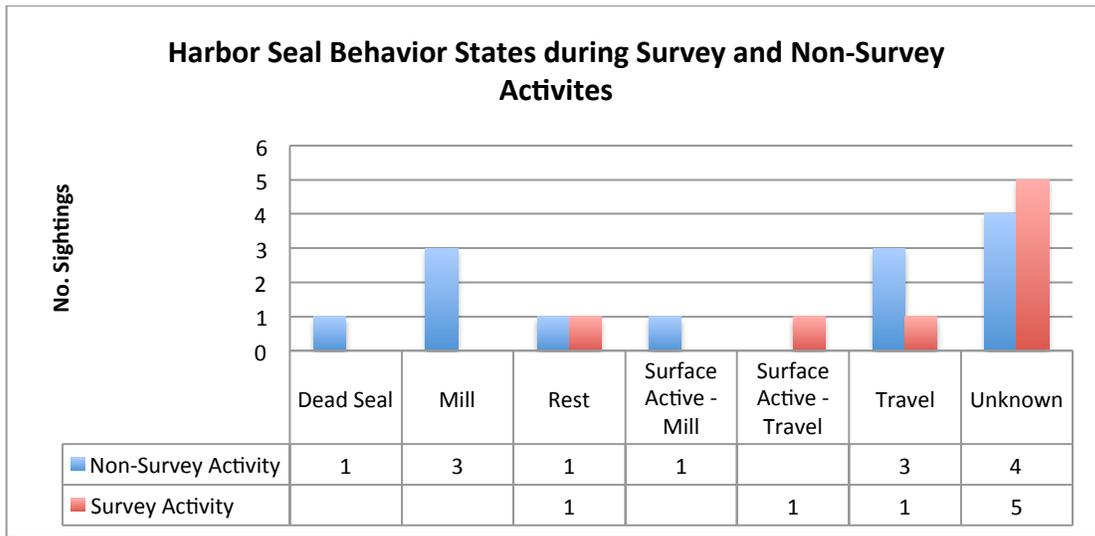


Figure 11. Harbor seal behavior states observed during survey and non-survey periods.

5.2.3.3 Humpback Whale

A total of 6 humpback whale sightings (15 individuals) were observed during EMALL’s Cook Inlet G&G Surveys. All humpback whale sightings occurred during non-survey periods thus behavior and reactions are based only on non-survey observations. Of the 6 humpback whale sightings 1 sighting (4 individuals) was observed in the behavior state of surface-active mill, 2 sightings (2 individuals) were observed traveling, and 3 sightings the behavior was unknown (9 individuals). There were no behavioral reactions observed for humpback whale sightings (Figure 12).

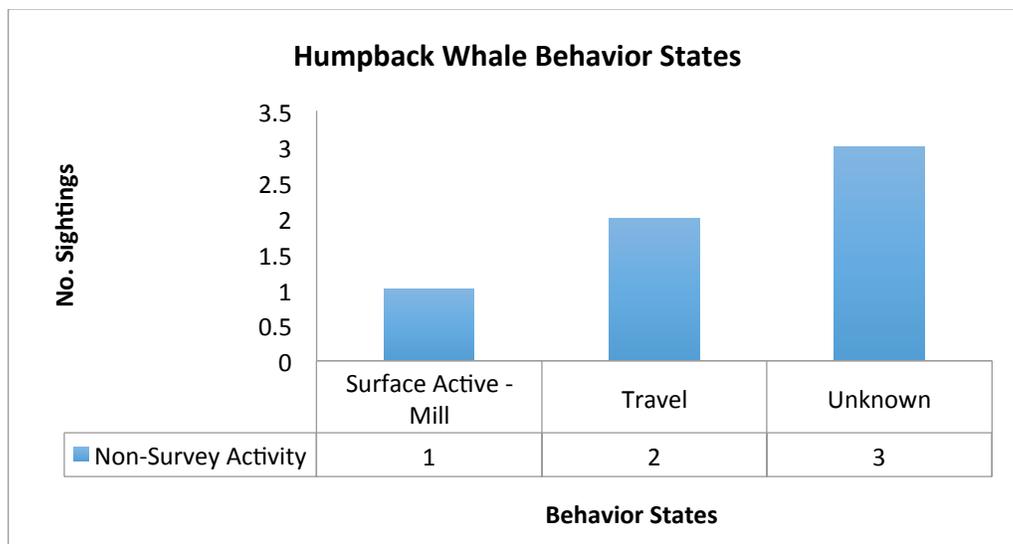


Figure 12. Humpback whale behavior states observed.

5.2.4 Closest Point of Approach

The CPA was calculated for all marine mammal sightings (Figure 14).

- The single harbor porpoise (observed during G&G survey period) was observed at 301 – 400 m.
- Humpback whales, all observed during non-survey periods, were observed at 201 – 300 m, 401 – 500 m and >1000 m.
- Harbor seals were mostly observed within 200 m (<100 m and 101-200 m) of the source vessel, however there was no clear difference between survey vs. non-survey periods.
- Sea otters were seen at varying distances up to 400 m, but most commonly at 101-200 m.

CPA for harbor seals and sea otters are provided in Figure 15 and Figure 16, respectively.

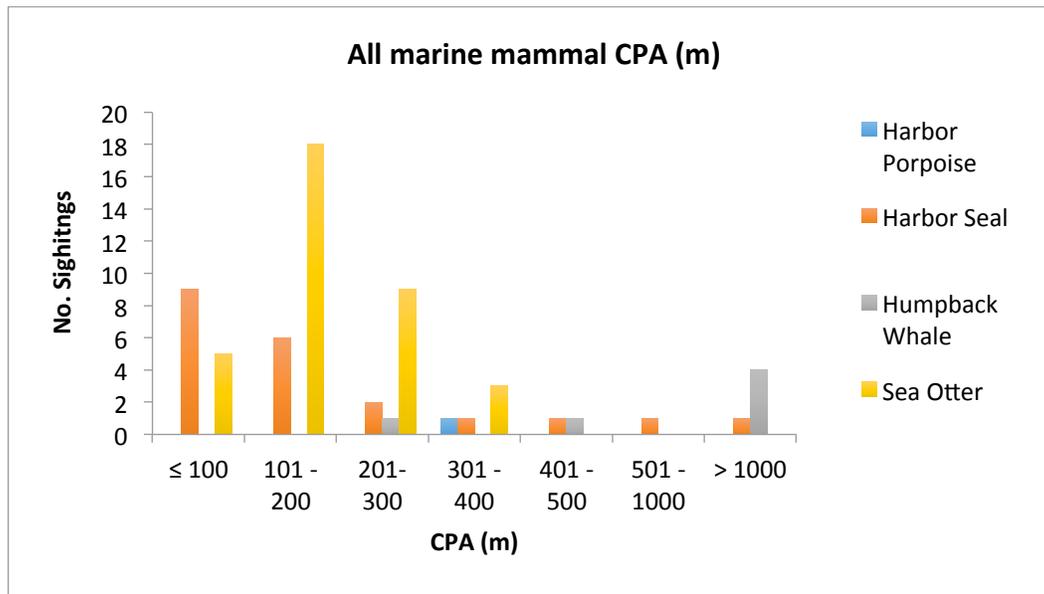


Figure 14. Closest point of approach for all marine mammal sightings (m).

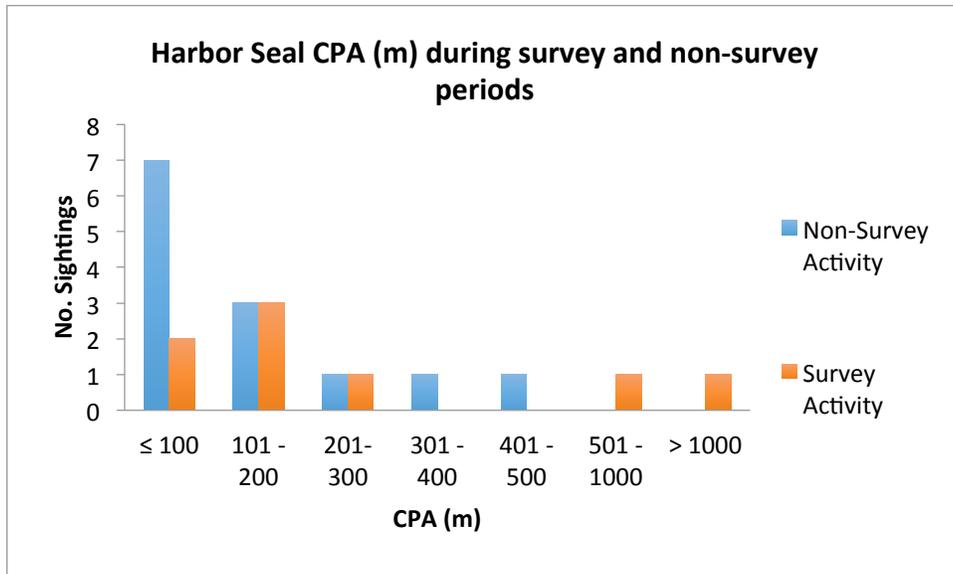


Figure 15. Harbor seal CPA (m) during survey and non-survey periods.

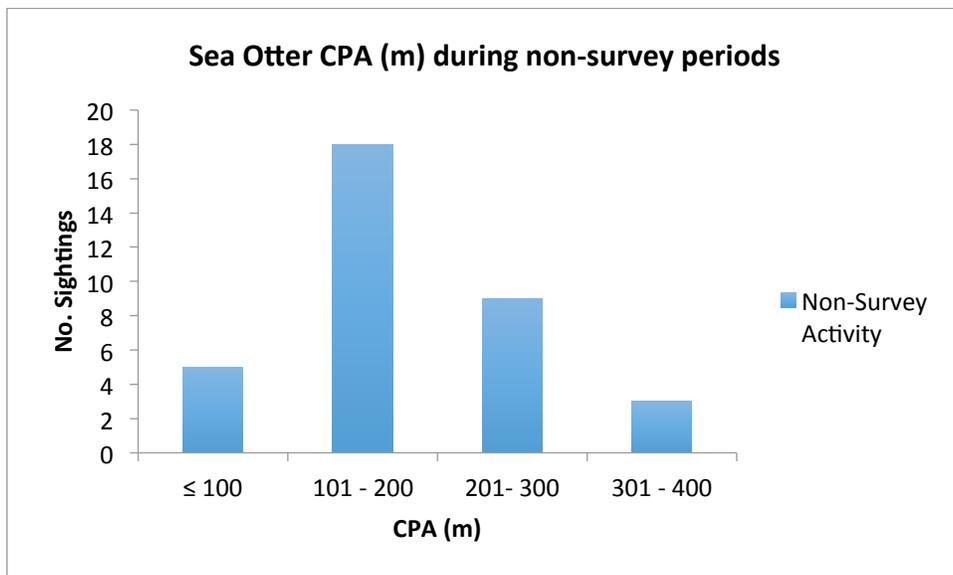


Figure 16. Sea otter CPA (m) non-survey periods.

5.2.5 Marine Mammal Exposures

During EMALL's Cook Inlet G&G Surveys, a total of six marine mammals (all were harbor seals) were confirmed visually within the Level B (160 dB) zones, resulting in six potential Level B exposures (Table 8, Table 9). Details on the Level B exposures are provided in Appendix C.

There were no marine mammals visually observed within the Level A exclusion zones. A sighting of a harbor seal carcass prompted the submission of a stranding report to NMFS, but it was unrelated to the survey activities (see Section 5.5).

Table 8. Number of pinniped exposures per species.

Species	No. of Level A Exposures*	No. of Level B Exposures**	120 dB re 1 μ Pa-m (rms) Exposures	No. of Cumulative Exposures
Harbor Seal	0	6	0	6
Total	0	6	0	6

*Level A exposures for pinnipeds are ≥ 190 dB re 1 μ Pa-m (rms)

**Level B exposures for pinnipeds are ≥ 160 dB re 1 μ Pa-m (rms)

Table 9. Number of cetacean exposures per species.

Species	No. of Level A Exposures*	No. of Level B Exposures**	120 dB re 1 μ Pa-m (rms) Exposures	No. of Cumulative Exposures
N/A	0	0	0	0
Total	0	0	0	0

*Level A exposures for cetaceans are ≥ 180 dB re 1 μ Pa-m (rms)

**Level B exposures for cetaceans are ≥ 160 dB re 1 μ Pa-m (rms)

5.3 Implemented Mitigation Measures

Table 10. Number and type of mitigation measures implemented.

Mitigation Measure	R/V Qualifier 105
Clearing Safety Zone ¹	37
Power Down	0
Shut Down	0
Speed/Course Alteration	0

¹Clearing the safety zone occurred at the start of all operations after an extended shut down, number is not representative of a sighting of a marine mammal.

5.4 Implementation of Terms and Conditions

EMALL's Cook Inlet G&G Surveys requirements set forth in the IHA and ITS were effectively implemented, minimizing the potential for adverse effects of the survey activity on ESA-listed and non-ESA listed marine mammals in Cook Inlet. Survey activities resulted in only 6 observations of potential Level B exposure for harbor seals during the dates of August 26 –

October 19, 2015.

EMALL complied with all monitoring and mitigation requirements as described in the IHA during the survey activities. PSOs were stationed onboard the survey vessel and implemented mitigation measures described in the Marine Mammal Monitoring and Mitigation Plan. Before the start of operations, the Level A and Level B zones were “cleared” by the PSOs for the full 30-minute period. Observations of marine mammals were recorded and reported weekly and monthly to NMFS according to the requirements of the IHA. The program avoided areas of high beluga whale density.

EMALL’s Cook Inlet G&G Surveys complied with and effectively implemented the following terms and conditions of the ITS:

11.1 Amount or Extent of Take.

- EMALL did not observe Cook Inlet beluga whales in the vicinity of the survey, and therefore the survey activity did not meet or exceed the 24 non-lethal incidental takes of beluga whales issued by NMFS in the IHA, nor did the survey activities result in authorized harassment.

11.2 Reasonable and Prudent Measures.

- EMALL conducted operations in a manner to minimize potential impacts to Cook Inlet beluga whales by refraining from survey activities in the vicinity of the Susitna Delta between April 15 and October 15, and implemented a comprehensive monitoring and reporting program.

11.3 Terms and Conditions.

- All project activity complied with the terms, conditions, and requirements of the IHA and the ITS (RPM 1.1). PSOs were stationed onboard the sound source vessel *R/V Qualifier 105* to observe disturbance zones for 30 minutes prior to initiating acoustic operations as required by RPM 1.2.
- PSOs were prepared to report Level A harassment of marine mammals (RPM 1.3). On October 6, 2015 EMALL submitted a stranding report to NMFS for a sighting of a harbor seal carcass unrelated to the survey activities.
- Mitigation measures described in RPM 2 and RPM 3.1 were not applicable to the acoustic operations described in the IHA; the geotechnical borings for which those requirements are applicable were not conducted due to weather conditions prohibiting safe operations.
- EMALL implemented the requirements of RPM 3.2 and 3.3, which included filing weekly, monthly, and end of survey reports to NMFS AKR and NMFS PR1. EMALL initiated investigation of the technical feasibility of implementing a passive acoustic monitoring program in the area adjacent to the proposed Marine Terminal and Liquefaction Plant as described in the conservation recommendations of the Biological Opinion. EMALL continues to investigate opportunities to implement this recommendation.
- EMALL directed the PSOs stationed onboard the survey vessel to monitor the full area visible to them (including but not limited to the Level A and Level B zones) for presence of marine mammals while on watch. The extent of visibility was beyond the Level A and B zones, but not the full extent of 6.4 km described in the conservation recommendation. There were no observations of Cook Inlet beluga

whales within or beyond the Level A and Level B zones during EMALL's Cook Inlet G&G Surveys.

5.5 *Stranding Reports*

On October 5, 2015 a harbor seal carcass was observed in a state of advanced decomposition. This event was unrelated to survey activities. A stranding report was submitted to NMFS on October 6, 2015, within 24 hours of the sighting (Appendix D).

6 Literature Cited

Aerts, L., M. Bles, S. Blackwell, C. Greene, K. Kim, D. Hannay and M. Austin. 2008. Marine mammal monitoring and mitigation during BPXA Liberty OBC seismic survey in Foggy Island Bay, Beaufort Sea, July-August 2008: 90- day report. LGL Rep. P1011-1. Prepared by LGL Alaska Research Associates Inc., LGL Ltd., Greeneridge Sciences Inc., and JASCO Research Ltd. for BP Exploration Alaska, Anchorage, AK.

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Lomac-MacNair, K., M.A. Smultea and G. Campbell. 2014. Draft NMFS 90-Day Report for Marine Mammal Monitoring and Mitigation during Apache's Cook Inlet 2014 Seismic Survey, 2 April – 27 June 2014. Prepared for Apache Alaska Corporation, 510 L Street #310, Anchorage AK 99501. Prepared by Smultea Environmental Sciences (SES), P.O. Box 256, Preston, WA 98050

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Richardson, W.J. 1995. Documented Disturbance Reactions. Pages 241-324 in Marine mammals and noise, edited by. W.J. Richardson, C.R. Greene, Jr., C.I. Malme, and D.H. Thomson. Academic Press, San Diego.

Appendix A Incidental Harassment Authorization and Take Statement

Begins on next page.



**UNITED STATES DEPARTMENT
OF COMMERCE**

**National Oceanic and
Atmospheric Administration**

NATIONAL MARINE FISHERIES SERVICE

Silver Spring, MO 20910

AUG 14 2015

Charlie Kominas

Alaska LNG Safety, Security, Health, and Environment Manager

ExxonMobil Development Company

3201 C Street; Suite 506

Anchorage, AK 99501

Dear Mr. Kominas:

Enclosed is an Incidental Harassment Authorization (IHA) issued to the ExxonMobil Alaska LNG LLC under the authority of section 101(a)(5)(D) of the Marine Mammal Protection Act (16 U.S.C. 1361 *et seq.*), to harass small numbers of marine mammals, by Level B harassment, incidental to the marine geotechnical and geophysical survey in Cook Inlet from August 14, 2015 through August 13, 2016.

You are required to comply with the conditions contained in the IHA. In addition, you must submit reports to the National Marine Fisheries Service's (NMFS) Office of Protected Resources on a weekly and monthly basis during the survey and within 90 days of its completion. The IHA requires monitoring of marine mammals by qualified individuals before, during, and after seismic activities and reporting of marine mammal observations, including species, numbers, and behavioral modifications potentially resulting from this activity.

If you have any questions concerning the IHA or its requirements, please contact Sara Young, Office of Protected Resources, NMFS, at 301-427-8484.

Sincerely,

A handwritten signature in black ink, appearing to read "Donna S. Wieting", with a long horizontal flourish extending to the right.

Donna S. Wieting
Director
Office of Protected Resources



Enclosures



**UNITED STATES DEPARTMENT
OF COMMERCE**

**National Oceanic and
Atmospheric Administration**

NATIONAL MARINE FISHERIES SERVICE

Silver Spring, MO 20910

AUG 14 2015

Incidental Harassment Authorization

Exxon Mobil Alaska LNG LLC (EMALL), 3201 C Street; Suite 506, Anchorage, Alaska 99501, is hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1371(a)(5)(D)), to harass small numbers of marine mammals incidental to specified activities associated with a marine geophysical and geotechnical survey in Cook Inlet, Alaska, contingent upon the following conditions:

1. This Authorization is valid from August 14, 2015, through August 13, 2016.
2. This Authorization is valid only for EMALL's activities associated with survey operations that shall occur within the areas denoted as Marine Terminal Survey Area and Pipeline Survey Area as depicted in the attached Figure 1 of EMALL's April 2015 application to the National Marine Fisheries Service (airgun, chirp, boomer, vibrocore).
3. Species Authorized and Level of Take
 - (a) The incidental taking of marine mammals, by Level B harassment only, is limited to the following species in the waters of Cook Inlet:
 - (i) Odontocetes: see Table 1 (attached) for authorized species and take numbers.
 - (ii) Pinnipeds: see Table 1 (attached) for authorized species and take numbers.
 - (iii) If any marine mammal species are encountered during activities that are not listed in Table 1 (attached) for authorized taking and are likely to be exposed to sound pressure levels (SPLs) greater than or equal to 160 dB re 1 μ Pa (rms) for impulsive sound or 120 dB re 1 μ Pa (rms) for continuous sound, then the Holder of this Authorization must alter speed or course or shut-down the sound source to avoid take.
 - (b) The taking by injury (Level A harassment), serious injury, or death of any of the species listed in Table 1 or the taking of any other species of marine mammal is prohibited and may result in the modification, suspension or revocation of this Authorization.

- (c) If the number of detected takes of any marine mammal species listed in Table 1 is met or exceeded, EMALL shall immediately cease survey operations involving the use of active sound sources (e.g., airguns, boomer, chirp, and vibracore) and notify NMFS.
4. The authorization for taking by harassment is limited to the following acoustic sources (or sources with comparable frequency and intensity) absent an amendment to this Authorization:
- (a) EdgeTech3200 Sub-bottom profiler chirp;
 - (b) Applied Acoustics AA301 Sub-bottom profiler boomer;
 - (c) A 60 in' airgun;
 - (d) Alpine vibracore
5. The taking of any marine mammal in a manner prohibited under this Authorization must be reported immediately to the Chief, Permits and Conservation Division, Office of Protected Resources, NMFS or her designee at (301) 427-8401.
6. The holder of this Authorization must notify the Chief of the Permits and Conservation Division, Office of Protected Resources, or her designee at least 48 hours prior to the start of survey activities (unless constrained by the date of issuance of this Authorization in which case notification shall be made as soon as possible) at 301-427-8484 or to Sara.Young@noaa.gov.
7. Mitigation and Monitoring Requirements: The Holder of this Authorization is required to implement the following mitigation and monitoring requirements when conducting the specified activities to achieve the least practicable impact on affected marine mammal species or stocks:
- (a) Utilize a minimum of two NMFS- qualified PSOs per source vessel (one on duty and one off-duty) to visually watch for and monitor marine mammals near the aforementioned acoustic source vessels during daytime operations (from nautical twilight-dawn to nautical twilight-dusk) and before and during start-ups of sound sources day or night, and also continuing for 30 minutes after sound sources shut down. PSOs shall have access to reticle binoculars (7x50) and long-range binoculars (40x80). PSO shifts shall last no longer than 4 hours at a time. PSOs shall also make observations during daytime periods when the sound sources are not operating for comparison of animal abundance and behavior, when feasible. When practicable, as an additional means of visual observation, EMALL's vessel crew may also assist in detecting marine mammals.
 - (b) Record the following information when a marine mammal is sighted:
 - (i) Species, group size, age/size/sex categories (if determinable), behavior when first sighted and after initial sighting, heading (if consistent), bearing and distance from source vessel, sighting cue, apparent reaction to the airguns or vessel (e.g., none, avoidance, approach, paralleling, etc.), and behavioral pace;

- (ii) Time, location, heading, speed, activity of the vessel (including type of equipment operating), Beaufort sea state and wind force, visibility, and sun glare; and
 - (iii) The data listed under Condition 7(d)(ii) shall also be recorded at the start and end of each observation watch and during a watch whenever there is a change in one or more of the variables.
- (c) Establish the relevant 120 dB or 160 dB re 1 μ Pa (rms) "disturbance zone" for belugas, and groups of five or more harbor porpoises and killer whales as well as a 180 dB re 1 μ Pa (rms) and 190 dB re 1 μ Pa (rms) "exclusion zone" (EZ) for cetaceans and pinnipeds respectively before equipment is in operation.
- (d) Visually observe the entire extent of the EZ (180 dB re 1 μ Pa [rms] for cetaceans and 190 dB re 1 μ Pa [rms] for pinnipeds) using NMFS-qualified PSOs, for at least 30 minutes (min) prior to starting the survey (day or night) or extended shutdown periods of 15 minutes or greater. If the PSO finds a marine mammal within the EZ, EMALL must delay the authorized acoustic sources until the marine mammal(s) has left the area. If the PSO sees a marine mammal that surfaces, then dives below the surface, the PSO shall wait 30 min. If the PSO sees no marine mammals during that time, they should assume that the animal has moved beyond the EZ. If for any reason the entire radius cannot be seen for the entire 30 min (i.e., rough seas, fog, darkness), or if marine mammals are near, approaching, or in the EZ, the sound sources may not be started.
- (e) Alter speed or course during survey operations if a marine mammal, based on its position and relative motion, appears likely to enter the relevant EZ. If speed or course alteration is not safe or practicable, or if after alteration the marine mammal still appears likely to enter the EZ, further mitigation measures, such as a shutdown, shall be taken.
- (f) Shutdown the sound source(s) if a marine mammal is detected within, approaches, or enters the relevant EZ. A shutdown means all operating sound sources are shut down (i.e., turned off).
- (g) Survey activity shall not resume until the PSO has visually observed the marine mammal(s) exiting the EZ and is not likely to return, or has not been seen within the EZ for 15 min for species with shorter dive durations (small odontocetes and pinnipeds) or 30 min for species with longer dive durations (large odontocetes, including killer whales and beluga whales).
- (h) Marine geophysical surveys may continue into night and low-light hours if such segment(s) of the survey is initiated when the entire relevant EZs can be effectively monitored visually (i.e., PSO(s) must be able to see the extent of the entire relevant EZ).
- (i) No initiation of survey operations involving the use of sound sources is permitted from a shutdown position at night or during low-light hours (such as in dense fog or heavy rain).

- (j) If a beluga whale is visually sighted approaching or within the relevant 120-dB or 160- dB disturbance zone, survey activity will not commence or the sound source(s) shall be shut down until the animals are no longer present within the relevant 120-dB or 160-dB zone.
- (h) Whenever aggregations or groups of killer whales and/or harbor porpoises are detected approaching or within the 160-dB disturbance zone, survey activity will not commence or the sound source(s) shall be shut-down until the animals are no longer present within the 160- dB zone. An aggregation or group of whales/porpoises shall consist of five or more individuals of any age/sex class.
- (i) EMALL must not operate within 10 miles (16 km) of the mean lower low water (MLLW) line of the Susitna Delta (Beluga River to the Little Susitna River) between April 15 and October 15 (to avoid any effects to belugas in an important feeding and breeding area).
- (j) Survey operations involving the use of airguns, sub-bottom profiler chirp and boomer, or vibrocore must cease if takes of any marine mammal are met or exceeded.

8. Reporting Requirements: The Holder of this Authorization is required to:

- (a) Submit a weekly field report, no later than close of business (Alaska time) each Thursday during the weeks when in-water survey activities take place. The field reports will summarize species detected, in-water activity occurring at the time of the sighting, behavioral reactions to in-water activities, and the number of marine mammals taken.
- (b) Submit a monthly report, no later than the 15th of each month, to NMFS' Permits and Conservation Division for all months during which authorized in-water survey activities occur. These reports must contain and summarize the following information:
 - (i) Dates, times, locations, heading, speed, weather, sea conditions (including Beaufort sea state and wind force), and associated activities during all operations and marine mammal sightings;
 - (ii) Species, number, location, distance from the vessel, and behavior of any marine mammals, as well as associated activity (type of equipment in use and number of shutdowns), observed throughout all monitoring activities;
 - (iii) An estimate of the number (by species) of: (A) pinnipeds that have been exposed to the activity (based on visual observation) at received levels greater than or equal to relevant 120dB or 160 dB re 1 μ Pa (rms) and/or 190 dB re 1 μ Pa (rms) with a discussion of any specific behaviors those individuals exhibited; and (B) cetaceans that have been exposed to the activity (based on visual observation) at received levels greater than or equal to 120 dB or 160 dB re 1 μ Pa (rms) and/or 180 dB re 1 μ Pa (rms) with a discussion of any specific behaviors those individuals exhibited.

- (iv) A description of the implementation and effectiveness of the: (A) terms and conditions of the Biological Opinion's Incidental Take Statement; and (B) mitigation measures of this Authorization. For the Biological Opinion, the report shall confirm the implementation of each Term and Condition, as well as any conservation recommendations, and describe their effectiveness, for minimizing the adverse effects of the action on Endangered Species Act-listed marine mammals.
 - (c) Submit a draft Technical Report on all activities and monitoring results to NMFS' Permits and Conservation Division within 90 days of the completion of the survey. The Technical Report will include the following information:
 - (i) Summaries of monitoring effort (e.g., total hours, total distances, and marine mammal distribution through the study period, accounting for sea state and other factors affecting visibility and detectability of marine mammals);
 - (ii) Analyses of the effects of various factors influencing detectability of marine mammals (e.g., sea state, number of observers, and fog/glare);
 - (iii) Species composition, occurrence, and distribution of marine mammal sightings, including date, water depth, numbers, age/size/gender categories (if determinable), group sizes, and ice cover;
 - (iv) Analyses of the effects of survey operations; and
 - (v) Sighting rates of marine mammals during periods with and without survey activities (and other variables that could affect detectability), such as: (A) initial sighting distances versus survey activity state; (B) closest point of approach versus survey activity state; (C) observed behaviors and types of movements versus survey activity state; (D) numbers of sightings/individuals seen versus survey activity state; (E) distribution around the source vessels versus survey activity state; and (F) estimates of take by Level B harassment based on presence in the relevant 120 dB or 160 dB harassment zone.
 - (d) Submit a final report to the Chief, Permits and Conservation Division, Office of Protected Resources, NMFS, within 30 days after receiving comments from NMFS on the draft report. If NMFS decides that the draft report needs no comments, the draft report shall be considered to be the final report.
 - (e) EMALL must immediately report to NMFS if 10 belugas are detected within the relevant 120 dB or 160 dB re 1 μ Pa (rms) disturbance zone during survey operations to allow NMFS to consider making necessary adjustments to monitoring and mitigation.
9. (a) In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by this Authorization, such as an injury (Level A harassment), serious injury or mortality (e.g., ship-strike, gear interaction, and/or entanglement), EMALL shall immediately cease the specified activities and immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, or her designees by phone or email (telephone: 301-427-8401 or Sara.Young@noaa.gov), the Alaska Regional Office (telephone: 907-271-1332

or Barbara.Mahoney@noaa.gov), and the Alaska Regional Stranding Coordinators (telephone: 907-586-7248 or Aleria.Jensen@noaa.gov or Barbara.Mahoney@noaa.gov). The report must include the following information:

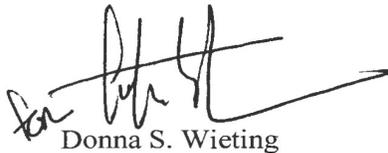
- (i) Time, date, and location (latitude/longitude) of the incident ;
- (ii) The name and type of vessel involved;
- (iii) The vessel's speed during and leading up to the incident;
- (iv) Description of the incident;
- (v) Status of all sound source use in the 24 hours preceding the incident;
- (vi) Water depth;
- (vii) Environmental conditions (e.g., wind speed and direction, Beaufort sea state, cloud cover, and visibility) ;
- (viii) Description of marine mammal observations in the 24 hours preceding the incident
- (ix) Species identification or description of the animal(s) involved;
- (x) The fate of the animal(s) involved;
- (xi) Photographs or video footage of the animal (if equipment is available)

Activities shall not resume until NMFS is able to review the circumstances of the prohibited take. NMFS shall work with EMALL to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. EMALL may not resume their activities until notified by NMFS via letter or email, or telephone.

- (b) In the event that EMALL discovers an injured or dead marine mammal, and the lead PSO determines that the cause of the injury or death is unknown and the death is relatively recent (i.e., in less than a moderate state of decomposition as described in the next paragraph), EMALL will immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, her designees, and the NMFS Alaska Stranding Hotline (see contact information in Condition 9(a)). The report must include the same information identified in the Condition 9(a) above. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with EMALL to determine whether modifications in the activities are appropriate.
- (c) In the event that EMALL discovers an injured or dead marine mammal, and the lead PSO determines that the injury or death is not associated with or related to the activities authorized in Condition 2 of this Authorization (e.g., previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), EMALL shall report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, her designees, the NMFS Alaska Stranding Hotline (1-877-925-7773), and the Alaska Regional Stranding Coordinators within 24 hours of the discovery (see contact information in Condition 9(a)). EMALL shall provide photographs or video footage (if available) or other

documentation of the stranded animal sighting to NMFS and the Marine Mammal Stranding Network. Activities may continue while NMFS reviews the circumstances of the incident.

10. EMALL is required to comply with the Reasonable and Prudent Measures and Terms and Conditions of the ITS corresponding to NMFS' Biological Opinion issued to both U.S. Army Corps of Engineers and NMFS' Office of Protected Resources.
11. A copy of this Authorization and the ITS must be in the possession of all contractors and PSOs operating under the authority of this Incidental Harassment Authorization.
12. Penalties and Permit Sanctions: Any person who violates any provision of this Incidental Harassment Authorization is subject to civil and criminal penalties, permit sanctions, and forfeiture as authorized under the MMPA.
13. This Authorization may be modified, suspended or withdrawn if the Holder fails to abide by the conditions prescribed herein or if the authorized taking is having more than a negligible impact on the species or stock of affected marine mammals, or if there is an unmitigable adverse impact on the availability of such species or stocks for subsistence uses.



Donna S. Wieting

D G 1 4 2015

Director, Office of Protected Resources
National Marine Fisheries Service

Table 1. Authorized Take Numbers for Each Marine Mammal Species in Cook Inlet

Species	Authorized Take in the Cook Inlet Action Area
Odontocetes	
Beluga whale <i>(Delphinapterus leucas)</i>	24
Killer whale <i>(Orcinus orca)</i>	5
Harbor porpoise <i>(Phocoena phocoena)</i>	20
Pinnipeds	
Harbor seal <i>(Phoca vitulina richardsi)</i>	1168

Appendix B Sightings Table

Table 11. Sighting summary table.

Id	Date/ Time (AKDT)	Species	Sighting Latitude (N)	Sighting Longitude (W)	Count	Precip	Bft	Vessel Speed (COG)	In use	Chirp	Boomer	Airgun	Source (km)	Vessel (km)	Behavior	Exposure Level	Reaction Observed
S1-001	9/5/15 9:51	Harbor Seal	60.68046	- 151.44152	1	None	1	340.36	Yes	Yes	No	Yes	0.071	0.06	Unknown	B	None
S1-002	9/6/15 11:27	Harbor Seal	60.6427	- 151.40684	1	Fog	0	166.2	Yes	Yes	No	Yes	0.18	0.15	Unknown	B	None
S1-3	9/7/15 14:38	Harbor Seal	60.68782	- 151.40068	1	None	1	93.89	No	No	No	No	0.046	0.08	Unknown	-	None
S1-4	9/7/15 15:02	Harbor Seal	60.68618	- 151.39679	1	None	1	165.41	No	No	No	No	0.234	0.2	Unknown	-	None
S1-5	9/8/15 18:02	Harbor Porpoise	60.65589	- 151.44813	1	Light Rain	1	340.75	Yes	Yes	No	Yes	0.344	0.35	Travel	-	None
S1-6	9/9/15 17:02	Harbor Seal	60.68904	- 151.40675	1	None	1	201.32	No	No	No	No	0.421	0.45	Unknown	-	Unknown
S1-7	9/11/15 7:33	Harbor Seal	60.64973	- 151.40851	1	None	2	0.03	Yes	Yes	No	No	0.11	0.08	Unknown	B	Look
S1-8	9/11/15 15:33	Harbor Seal	60.68761	- 151.40003	1	None	2	199.16	No	No	No	No	0.067	0.05	Travel	-	Swim Towards
S1-9	9/15/15 19:02	Harbor Seal	60.63153	- 151.44545	1	Light Rain	3	163.22	Yes	Yes	Yes	No	0.106	0.075	Unknown	B	Look
S1-10	9/16/15 9:58	Harbor Seal	60.53404	- 151.43185	1	Light Rain	2	55.71	Yes	Yes	Yes	No	0.233	0.2	Rest	B	Look
S1-11	9/18/15 15:30	Harbor Seal	60.62232	- 151.35754	1	None	2	160.7	Yes	Yes	Yes	No	1.53	1.5	Unknown	-	Look
S1-12	9/22/15 16:38	Sea Otter	59.75517	- 151.95907	3	None	3	162.94	No	No	No	No	0.112	0.075	Otter - Float/Rest	-	Otter - Not Significant

Id	Date/Time (AKDT)	Species	Sighting Latitude (N)	Sighting Longitude (W)	Count	Precip	Bft	Vessel Speed (COG)	In use	Chirp	Boomer	Airgun	Source (km)	Vessel (km)	Behavior	Exposure Level	Reaction Observed
S1-13	9/22/15 16:42	Sea Otter	59.7439	-151.94855	1	None	3	159.21	No	No	No	No	0.172	0.15	Otter - Travel/swim	-	Otter - Not Significant
S1-14	9/22/15 16:46	Sea Otter	59.73358	-151.94136	2	None	3	157.42	No	No	No	No	0.128	0.1	Otter - Float/Rest	-	Otter - Not Significant
S1-15	9/22/15 16:48	Sea Otter	59.72572	-151.93665	1	None	3	156.68	No	No	No	No	0.237	0.2	Otter - Float/Rest	-	Otter - Not Significant
S1-16	9/22/15 16:53	Sea Otter	59.71163	-151.92437	2	None	3	157.85	No	No	No	No	0.237	0.2	Otter - Pup on mom	-	Otter - Not Significant
S1-17	9/22/15 16:55	Sea Otter	59.70817	-151.91934	1	None	3	149.09	No	No	No	No	0.214	0.18	Otter - Float/Rest	-	Otter - Not Significant
S1-18	9/22/15 16:57	Sea Otter	59.7024	-151.90989	3	None	3	136.87	No	No	No	No	0.286	0.25	Otter - Float/Rest	-	Otter - Not Significant
S1-19	9/22/15 17:01	Sea Otter	59.69492	-151.8971	1	None	3	134.2	No	No	No	No	0.134	0.1	Otter - Travel/swim	-	Otter - Significant
S1-20	9/22/15 17:04	Sea Otter	59.68781	-151.88318	1	None	4	131.33	No	No	No	No	0.109	0.075	Otter - Travel/swim	-	Otter - Not Significant

Id	Date/Time (AKDT)	Species	Sighting Latitude (N)	Sighting Longitude (W)	Count	Precip	Bft	Vessel Speed (COG)	In use	Chirp	Boomer	Airgun	Source (km)	Vessel (km)	Behavior	Exposure Level	Reaction Observed
S1-21	9/22/15 17:07	Sea Otter	59.68561	-151.86966	2	None	4	130.17	No	No	No	No	0.309	0.3	Otter - Pup on mom	-	Otter - Not Significant
S1-22	9/22/15 17:08	Sea Otter	59.68191	-151.86837	1	None	4	127.51	No	No	No	No	0.133	0.1	Otter - Travel/swim	-	Otter - Significant
S1-23	9/22/15 17:09	Sea Otter	59.67901	-151.86132	1	None	4	126.75	No	No	No	No	0.137	0.1	Otter - Travel/swim	-	Otter - Significant
S1-24	9/22/15 17:10	Sea Otter	59.6769	-151.8552	1	None	4	142.83	No	No	No	No	0.182	0.15	Otter - Travel/swim	-	Otter - Significant
S1-25	9/22/15 17:14	Sea Otter	59.66983	-151.84199	1	None	4	126.09	No	No	No	No	0.13	0.1	Otter - Float/Rest	-	Otter - Not Significant
S1-26	9/22/15 17:18	Sea Otter	59.66273	-151.82642	1	None	4	122.59	No	No	No	No	0.317	0.3	Otter - Float/Rest	-	Otter - Not Significant
S1-27	9/22/15 17:19	Sea Otter	59.66389	-151.81865	1	None	4	116.95	No	No	No	No	0.105	0.075	Otter - Float/Rest	-	Otter - Not Significant
S1-28	9/22/15 17:20	Sea Otter	59.66236	-151.80785	1	None	4	119.11	No	No	No	No	0.357	0.325	Otter - Float/Rest	-	Otter - Not Significant
S1-29	9/22/15 17:21	Sea Otter	59.65945	-151.81017	1	None	4	122.4	No	No	No	No	0.227	0.2	Otter - Float/Rest	-	Otter - Not Significant

Id	Date/Time (AKDT)	Species	Sighting Latitude (N)	Sighting Longitude (W)	Count	Precip	Bft	Vessel Speed (COG)	In use	Chirp	Boomer	Airgun	Source (km)	Vessel (km)	Behavior	Exposure Level	Reaction Observed
S1-30	9/22/15 17:21	Sea Otter	59.65889	-151.80818	1	None	4	120.78	No	No	No	No	0.2	0.175	Otter - Float/Rest	-	Otter - Not Significant
S1-31	9/22/15 17:22	Sea Otter	59.65795	-151.80068	1	None	4	113.98	No	No	No	No	0.237	0.2	Otter - Travel/swim	-	Otter - Significant
S1-33	9/22/15 17:26	Sea Otter	59.6541	-151.78319	1	None	4	116.22	No	No	No	No	0.236	0.2	Otter - Float/Rest	-	Otter - Not Significant
S1-34	9/22/15 17:28	Sea Otter	59.65156	-151.77275	1	None	4	116.19	No	No	No	No	0.131	0.1	Otter - Travel/swim	-	Otter - Not Significant
S1-32	9/22/15 17:29	Humpback Whale	59.64685	-151.76494	1	None	4	113.98	No	No	No	No	0.434	0.4	Travel	-	None
S1-35	9/22/15 17:35	Sea Otter	59.64132	-151.7369	1	None	4	118.6318754	No	No	No	No	0.237	0.2	Otter - Travel/swim	-	None
S1-36	9/22/15 17:43	Sea Otter	59.63064	-151.69908	1	None	5	119.287165	No	No	No	No	0.287	0.25	Otter - Float/Rest	-	Otter - Not Significant
S1-37	9/22/15 17:50	Humpback Whale	59.62192	-151.66348	1	None	5	89.8	No	No	No	No	0.287	0.25	Travel	-	None
S1-38	9/22/15 17:56	Sea Otter	59.61784	-151.63643	1	None	5	115.11	No	No	No	No	0.153	0.12	Otter - Travel/swim	-	None
S1-39	9/22/15 18:00	Sea Otter	59.61396	-151.61801	2	None	5	113.46	No	No	No	No	0.102	0.1	Otter - Pup on mom	-	None

Id	Date/Time (AKDT)	Species	Sighting Latitude (N)	Sighting Longitude (W)	Count	Precip	Bft	Vessel Speed (COG)	In use	Chirp	Boomer	Airgun	Source (km)	Vessel (km)	Behavior	Exposure Level	Reaction Observed
S1-41	9/22/15 18:11	Sea Otter	59.6017	-151.56179	3	None	5	99.81	No	No	No	No	0.083	0.05	Otter - Float/Rest	-	Otter - Significant
S1-42	9/22/15 18:11	Sea Otter	59.60093	-151.56002	1	None	5	99.1	No	No	No	No	0.109	0.075	Otter - Float/Rest	-	None
S1-43	9/22/15 18:12	Sea Otter	59.59954	-151.55571	2	None	5	98.42	No	No	No	No	0.165	0.15	Otter - Float/Rest	-	None
S1-44	9/22/15 18:14	Sea Otter	59.60142	-151.54298	3	None	5	96.84	No	No	No	No	0.19	0.2	Otter - Float/Rest	-	Otter - Not Significant
S1-40	9/22/15 18:23	Humpback Whale	59.55006	-151.49287	4	None	5	98.33	No	No	No	No	5.006	5	Other	-	None
S1-45	9/22/15 18:40	Harbor Seal	59.59989	-151.40517	1	None	3	91.24507731	No	No	No	No	0.129	0.1	Rest	-	None
S1-46	9/22/15 18:45	Harbor Seal	59.60358	-151.41617	1	None	3	87.85275447	No	No	No	No	0.136	0.1	Unknown	-	None
S1-47	9/22/15 18:55	Harbor Seal	59.60542	-151.42488	1	None	1	22.88057447	No	No	No	No	0.013	0.05	Mill	-	None
S1-48	9/22/15 19:02	Harbor Seal	59.60522	-151.4249	1	None	1	86.31880147	No	No	No	No	0.034	0.07	Mill	-	None
S1-49	9/23/15 19:02	Harbor Seal	59.60546	-151.42444	1	None	1	160.22	No	No	No	No	0.084	0.05	Mill	-	None
S1-50	9/23/15 19:18	Humpback Whale	59.57477	-151.4445	3	None	1	251.81	No	No	No	No	2.595	2.564	Unknown	-	None
S1-52	9/23/15 19:25	Humpback Whale	59.53386	-151.54652	2	None	1	265.31	No	No	No	No	8.232	8.203	Unknown	-	None
S1-51	9/23/15 19:26	Humpback Whale	59.57996	-151.46177	4	None	1	265.55	No	No	No	No	1.017	1	Surface Active - Mill	-	None
S1-53	9/23/15 19:30	Sea Otter	59.58744	-151.47232	1	None	3	255.85	No	No	No	No	0.136	0.1	Otter - Float/Rest	-	None
S1-54	9/23/15 19:30	Sea Otter	59.58775	-151.47599	1	None	3	267.74	No	No	No	No	0.084	0.05	Otter - Float/Rest	-	None

Id	Date/Time (AKDT)	Species	Sighting Latitude (N)	Sighting Longitude (W)	Count	Precip	Bft	Vessel Speed (COG)	In use	Chirp	Boomer	Airgun	Source (km)	Vessel (km)	Behavior	Exposure Level	Reaction Observed
S1-55	9/23/15 19:32	Sea Otter	59.58739	-151.4857	1	None	3	262.41	No	No	No	No	0.086	0.05	Otter - Float/Rest	-	None
S1-56	9/23/15 19:52	Sea Otter	59.59178	-151.55729	1	None	4	287.03	No	No	No	No	0.087	0.05	Unknown	-	None
S1-57	9/23/15 20:09	Sea Otter	59.60556	-151.64077	1	None	4	285.09	No	No	No	No	0.094	0.07	Otter - Float/Rest	-	None
S1-58	9/27/15 18:14	Harbor Seal	60.68738	-151.3996	1	Light Rain	1	131.79	No	No	No	No	0.03	0.03	Travel	-	None
S1-59	9/29/15 13:05	Harbor Seal	60.65145	-151.3769	1	Light Rain	2	60.36	No	No	No	No	0.132	0.1	Travel	-	None
S1-60	10/5/15 15:24	Harbor Seal	60.78345219	-151.3633866	1	None	2	N/A	No	No	No	No	310	300	Dead Seal	-	None
S1-61	10/12/15 18:40	Harbor Seal	60.7506979	-151.2978034	1	None	1	174.37	Yes	Yes	No	No	637	600	Travel	-	None
S1-62	10/14/15 11:25	Harbor Seal	60.85968494	-151.189798	1	None	0	34.33	Yes	Yes	No	No	71	75	Surface Active - Travel	B	Look
S1-63	10/16/15 14:33	Harbor Seal	60.64715883	-151.3760557	1	None	4	277.77	No	No	No	No	84	100	Surface Active - Mill	-	None

Appendix C Exposure Summary

Table 12. Summary table of exposure sightings including date, time, species, count, distance to source, array volume, Level A or B exposure zone, mitigation activity, behavior at the time of sighting and a reaction if observed.

Date/Time	Species	Sighting Latitude (N)	Sighting Longitude (W)	Count	Calves	Equipment in Use	Distance to Equipment (m)	Level A or B	Mitigation Activity	Behavior State	Reaction	Notes
2015-09-05 09:51 AKDT	Harbor Seal	60.68046	-151.442	1	0	SBP Chirp, Airgun	70.7	B	None	Swim/sink	None	Low-swimming seal that sank soon after visual detection
2015-09-06 11:27 AKDT	Harbor Seal	60.6427	-151.407	1	0	SBP Chirp, Airgun	179.8	B	None	Swim/sink	None	Head low at the surface for only a few seconds and then sank
2015-09-11 07:33 AKDT	Harbor Seal	60.64973	-151.409	1	0	SBP Chirp	110.1	B	None	Look/sink	Look	Bottlenosing and looked at the boat and sank.
2015-09-15 19:02 AKDT	Harbor Seal	60.63153	-151.445	1	0	SBP Boomer	106.3	B	None	Look/sink	Look	Looked at the vessel and sank.
2015-09-16 09:58 AKDT	Harbor Seal	60.53404	-151.432	1	0	SBP Chirp & SBP Boomer	233	B	None	Rest	Look	Looked at vessel, looked around, then sank. Exposed to Level B boomer.

Date/Time	Species	Sighting Latitude (N)	Sighting Longitude (W)	Count	Calves	Equipment in Use	Distance to Equipment (m)	Level A or B	Mitigation Activity	Behavior State	Reaction	Notes
2015-10-14 11:25 AKDT	Harbor Seal	60.8596	-151.1897	1	0	SBP Chirp & SBP Boomer	70.7	B	None	Surface Active Travel	Look	Seal swam past the boat in the opposite direction, traveling towards shore, looking at the tall buoy several times as we passed. At last sighting, the seal was ~350m away.

Appendix D Stranding Reports

Begins on next page.

MARINE MAMMAL STRANDING REPORT - LEVEL A DATA

FIELD #: _____ NMFS REGIONAL #: _____ NATIONAL DATABASE#: _____
 (NMFS USE) (NMFS USE)
 COMMON NAME: Harbor Seal GENUS: Phoca SPECIES: vitulina
 EXAMINER Name: Kristine Lindberg Affiliation: PSO - Smultea Sciences
 Address: _____ Phone: Kate Lomac-Machin, Supervisor-907-306-7870
 Stranding Agreement or Authority: _____

LOCATION OF INITIAL OBSERVATION State: <u>AK</u> County: <u>Kenai Peninsula</u> City: <u>Niiskik / Osk dock</u> Body of Water: <u>Rock Inlet</u> Locality Details: <u>outside Osk dock</u> Lat (DD): <u>60</u> <u>78345</u> N Long (DD): <u>151</u> <u>312329</u> W <input checked="" type="checkbox"/> Actual <input type="checkbox"/> Estimated How Determined: (check ONE) <input checked="" type="checkbox"/> GPS <input type="checkbox"/> Map <input checked="" type="checkbox"/> Internet/Software	OCURRENCE DETAILS <input type="checkbox"/> Restrand GE# _____ Group Event: <input type="checkbox"/> YES <input type="checkbox"/> NO (NMFS Use) If Yes, Type: <input type="checkbox"/> Cow/Calf Pair <input type="checkbox"/> Mass Stranding # Animals: <u>1</u> <input checked="" type="checkbox"/> Actual <input type="checkbox"/> Estimated Findings of Human Interaction: <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> Could Not Be Determined (CBD) If Yes, Choose one or more: <input type="checkbox"/> 1. Boat Collision <input type="checkbox"/> 2. Shot <input type="checkbox"/> 3. Fishery Interaction <input type="checkbox"/> 4. Other Human Interaction: _____ How Determined (Check one or more): <input type="checkbox"/> External Exam <input type="checkbox"/> Internal Exam <input type="checkbox"/> Necropsy <input type="checkbox"/> Other: _____ Gear Collected? <input type="checkbox"/> YES <input type="checkbox"/> NO Gear Disposition: _____ Other Findings Upon Level A: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Could Not Be Determined (CBD) If Yes, Choose one or more: <input type="checkbox"/> 1. Illness <input type="checkbox"/> 2. Injury <input type="checkbox"/> 3. Pregnant <input type="checkbox"/> 4. Other: _____ How Determined (Check one or more): <input type="checkbox"/> External Exam <input type="checkbox"/> Internal Exam <input type="checkbox"/> Necropsy <input type="checkbox"/> Other: _____
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INITIAL OBSERVATION Date: Year: <u>2015</u> Month: <u>10</u> Day: <u>05</u> First Observed: <input type="checkbox"/> Beach or Land <input checked="" type="checkbox"/> Floating <input type="checkbox"/> Swimming CONDITION AT INITIAL OBSERVATION (Check ONE) <input type="checkbox"/> 1. Alive <input checked="" type="checkbox"/> 4. Advanced Decomposition <input type="checkbox"/> 2. Fresh dead <input type="checkbox"/> 5. Mummified/Skeletal <input type="checkbox"/> 3. Moderate decomposition <input type="checkbox"/> 6. Condition Unknown	LEVEL A EXAMINATION <input checked="" type="checkbox"/> Not Able to Examine Date: Year: _____ Month: _____ Day: _____ CONDITION AT EXAMINATION (Check ONE) <input type="checkbox"/> 1. Alive <input type="checkbox"/> 4. Advanced Decomposition <input type="checkbox"/> 2. Fresh dead <input type="checkbox"/> 5. Mummified/Skeletal <input type="checkbox"/> 3. Moderate decomposition <input type="checkbox"/> 6. Unknown
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INITIAL LIVE ANIMAL DISPOSITION (Check one or more) <input type="checkbox"/> 1. Left at Site <input type="checkbox"/> 6. Euthanized at Site <input type="checkbox"/> 2. Immediate Release at Site <input type="checkbox"/> 7. Transferred to Rehabilitation: Date: Year: _____ Month: _____ Day: _____ Facility: _____ <input type="checkbox"/> 3. Relocated <input type="checkbox"/> 8. Died during Transport <input type="checkbox"/> 4. Disentangled <input type="checkbox"/> 9. Euthanized during Transport <input type="checkbox"/> 5. Died at Site <input type="checkbox"/> 10. Other: _____	MORPHOLOGICAL DATA SEX (Check ONE) AGE CLASS (Check ONE) <input type="checkbox"/> 1. Male <input type="checkbox"/> 1. Adult <input type="checkbox"/> 4. Pup/Calf <input type="checkbox"/> 2. Female <input type="checkbox"/> 2. Subadult <input checked="" type="checkbox"/> 5. Unknown <input checked="" type="checkbox"/> 3. Unknown <input type="checkbox"/> 3. Yearling <input type="checkbox"/> Whole Carcass <input type="checkbox"/> Partial Carcass Straight length: _____ <input type="checkbox"/> cm <input type="checkbox"/> in <input type="checkbox"/> actual <input type="checkbox"/> estimated Weight: _____ <input type="checkbox"/> kg <input type="checkbox"/> lb <input type="checkbox"/> actual <input type="checkbox"/> estimated PHOTOS/VIDEOS TAKEN: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Photo/Video Disposition: <u>One small phone photo taken as vessel passed animal, ~100m away.</u>
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CONDITION/DETERMINATION (Check one or more) <input type="checkbox"/> 1. Sick <input type="checkbox"/> 7. Location Hazardous <input type="checkbox"/> 2. Injured <input type="checkbox"/> a. To animal <input type="checkbox"/> 3. Out of Habitat <input type="checkbox"/> b. To public <input type="checkbox"/> 4. Deemed Releasable <input type="checkbox"/> 8. Unknown/CBD <input type="checkbox"/> 5. Abandoned/Orphaned <input type="checkbox"/> 9. Other: _____ <input type="checkbox"/> 6. Inaccessible	CARCASS STATUS (Check one or more) <input checked="" type="checkbox"/> 1. Left at Site <input type="checkbox"/> 4. Towed: Lat _____ Long _____ <input type="checkbox"/> 7. Landfill <input type="checkbox"/> 2. Buried <input type="checkbox"/> 5. Sunk: Lat _____ Long _____ <input type="checkbox"/> 8. Unknown <input type="checkbox"/> 3. Rendered <input type="checkbox"/> 6. Frozen for Later Examination <input type="checkbox"/> 9. Other: _____ SPECIMEN DISPOSITION (Check one or more) <input type="checkbox"/> 1. Scientific collection <input type="checkbox"/> 2. Educational collection <input type="checkbox"/> 3. Other: _____ Comments: _____ NECROPSIED <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> Limited <input type="checkbox"/> Complete <input type="checkbox"/> Carcass Fresh <input type="checkbox"/> Carcass Frozen/Thawed NECROPSIED BY: _____ Date: Year: _____ Month: _____ Day: _____
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ADDITIONAL REMARKS

ADDITIONAL IDENTIFIER: _____ (If animal is reestranded, please indicate any previous field numbers here)

Sighted with seagull riding & feeding on body. Seal was floating south with the tide ~~near~~ outside the OSK area. We observed it as we passed in our survey boat, ~100m away.

DISCLAIMER

THESE DATA SHOULD NOT BE USED OUT OF CONTEXT OR WITHOUT VERIFICATION. THIS SHOULD BE STRICTLY ENFORCED WHEN REPORTING SIGNS OF HUMAN INTERACTION DATA.

DATA ACCESS FOR LEVEL A DATA

UPON WRITTEN REQUEST, CERTAIN FIELDS OF THE LEVEL A DATA SHEET WILL BE RELEASED TO THE REQUESTOR PROVIDED THAT THE REQUESTOR CREDIT THE STRANDING NETWORK AND THE NATIONAL MARINE FISHERIES SERVICE. THE NATIONAL MARINE FISHERIES SERVICE WILL NOTIFY THE CONTRIBUTING STRANDING NETWORK MEMBERS THAT THESE DATA HAVE BEEN REQUESTED AND THE INTENT OF USE. ALL OTHER DATA WILL BE RELEASED TO THE REQUESTOR PROVIDED THAT THE REQUESTOR OBTAIN PERMISSION FROM THE CONTRIBUTING STRANDING NETWORK AND THE NATIONAL MARINE FISHERIES SERVICE.

PAPERWORK REDUCTION ACT INFORMATION

PUBLIC REPORTING BURDEN FOR THE COLLECTION OF INFORMATION IS ESTIMATED TO AVERAGE 30 MINUTES PER RESPONSE, INCLUDING THE TIME FOR REVIEWING INSTRUCTIONS, SEARCHING EXISTING DATA SOURCES, GATHERING AND MAINTAINING THE DATA NEEDED, AND COMPLETING AND REVIEWING THE COLLECTION OF INFORMATION. SEND COMMENTS REGARDING THIS BURDEN ESTIMATE OR ANY OTHER ASPECT OF THE COLLECTION INFORMATION, INCLUDING SUGGESTIONS FOR REDUCING THE BURDEN TO: CHIEF, MARINE MAMMAL AND SEA TURTLE CONSERVATION DIVISION, OFFICE OF PROTECTED RESOURCES, NOAA FISHERIES, 1315 EAST-WEST HIGHWAY, SILVER SPRING, MARYLAND 20910. NOT WITHSTANDING ANY OTHER PROVISION OF THE LAW, NO PERSON IS REQUIRED TO RESPOND, NOR SHALL ANY PERSON BE SUBJECTED TO A PENALTY FOR FAILURE TO COMPLY WITH, A COLLECTION OF INFORMATION SUBJECT TO THE REQUIREMENTS OF THE PAPERWORK REDUCTION ACT, UNLESS THE COLLECTION OF INFORMATION DISPLAYS A CURRENTLY VALID OFFICE OF MANAGEMENT AND BUDGET (OMB) CONTROL NUMBER.



NOAA Form 89-864, OMB Control No 0648-0178, Expiration Date 01/31/2017