Hilcorp Alaska, LLC

Hilcorp Year 1 IHA Cook Inlet Activities 90-Day Report

October 13, 2023

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Suggested Citation:

Horsley, T. and M. Larson. 2023. Hilcorp Year 1 IHA Cook Inlet Activities 90-Day Report. Prepared by Weston Solutions, Inc. Prepared for Hilcorp Alaska, LLC.

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Acronyms and Abbreviations

°	degree(s)
≥	greater than or equal to
≤	less than or equal to
%	percent(age)
C	Celcius
DSLR	digital single-lens reflex
ft	foot/feet
g	gram(s)
GPS	global positioning system
Hilcorp	Hilcorp Alaska, LLC
IHA	Incidental Harassment Authorization
km	kilometer(s)
m	meter(s)
MCI	middle Cook Inlet
mi	mile(s)
mm	millimeter
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NVDs	Night vision devices
P&A	plug and abandonment
PSO	Protected Species Observer
QA/QC	quality assure/quality control
Weston	Weston Solutions, Inc.

1 Introduction

The National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) issued Hilcorp Alaska, LLC (Hilcorp) two sequential Incidental Harassment Authorizations (IHAs) valid 14 September 2022 to 13 September 2023 (Year 1) and 14 September 2023 to 13 September 2024 (Year 2). The IHAs authorize take of small numbers of specified marine mammals by Level B harassment. Hilcorp activities covered under the Year 1 IHA are reported herein and include three jack-up rig transports in middle Cook Inlet (MCI).

The Year 1 IHA authorized a small number of takes of the following 12 species: gray whale (*Eschrichtius robustus*), fin whale (*Balaenoptera physalus*), minke whale (*Balaenoptera acutorostrata*), humpback whale (*Megaptera novaeangliae*), beluga whale (*Delphinapterus leucas*), killer whale (*Orcinus orca*), harbor porpoise (*Phocoena phocoena*), Dall's porpoise (*Phocoenoides dalli*), Pacific white-sided dolphins *Eschrichtius robustus*), Steller sea lion (*Eumetopias jubatus*), California sea lion (*Zalophus californianus*), and harbor seal (*Phoca vitulina richardii*). Other species of marine mammals were to be recorded if observed.

This report presents all marine mammal data and includes details about operations, marine mammal sightings, and monitoring, as well as any implemented mitigation. An overview of all sighting data is provided in Appendix A.

2 Summary of Operations

During Year 1, Hilcorp completed three transports of the *Spartan 151* jack-up rig in middle Cook Inlet. Table 1 provides a summary of Hilcorp Year 1 jack-up rig transport activities between 14 September 2022 and 13 September 2023. Tugs towing jack-up rig activities included an aerial survey overflight prior to each mobilization. This report summarizes marine mammal observations during jack-up rig transport and all Cook Inlet activities occurring in Year 1 under the NMFS Year 1 IHA dated 14 September 2022. The following sections provide additional details on each of Hilcorp's activities.

Table 1. Summary of Operations.

Activity	Dates	Operating Vessels	Operating Aircraft	Location	Sound Sources
Transportation of *Spartan 151* jack-up rig	15-16 September 2022	*Bering Wind, Glacier Wind, Stellar Wind*	Viking DHC-6 Twin Otter	Tyonek Platform to Rig Tenders Dock in Nikiski	**Tugboats:** *Bering Wind, Glacier Wind, Stellar Wind*
Transportation of *Spartan 151* jack-up rig	8-9 June 2023	*Dr. Hank Kaplan, Bering Wind, Stellar Wind*	Viking DHC-6 Twin Otter	Rig Tenders Dock in Nikiski to Well 17589	**Tugboats:** *Dr. Hank Kaplan, Bering Wind, Stellar Wind*
Transportation of *Spartan 151* jack-up rig	13-14 July 2023	*Dr. Hank Kaplan, Bering Wind, Stellar Wind, Glacier Wind*	Viking DHC-6 Twin Otter	Well 17589 to Tyonek Platform	**Tugboats:** *Dr. Hank Kaplan, Bering Wind, Stellar Wind, Glacier Wind*

2.1 Transportation of Spartan 151 Jack-up Rig

Hilcorp transported the *Spartan 151* jack-up rig three times during Year 1: once in September 2022 and once each in June and July 2023. The *Spartan 151* is a 150 H class independent leg, cantilevered jack-up drill rig (jack-up rig) with a drilling depth capability of 7,620 meters (m) (25,000 feet [ft]) that can operate in maximum water depths up to 46 m (151 ft).

2.1.1 September 2022 Transport

From 15 to 16 September 2022, the *Spartan 151* jack-up rig was transported via three ocean-going tugs (*Bering Wind, Glacier Wind, Stellar Wind)* from the Tyonek Platform to the Rig Tenders Dock in Nikiski for storage over the winter. Table 2 provides location information for the Tyonek Platform.

Table 2. Location of Tyonek Platform.

Site	Latitude[1]	Longitude[1]
Tyonek Platform	61.0726207	-150.950713

[1]DD NAD83

Before transport began, an aerial survey of the area within 16.1 kilometers (km) (10 miles [mi]) of the Tyonek Platform and within the Susitna River Delta Exclusion Area (herein referred to as the Aerial Survey Area) was required to determine the Aerial Survey Area was visibly clear of belugas within 12 hours of the planned departure time. Two aerial surveys were required to clear the Aerial Survey Area.

The second aerial survey, which cleared the Aerial Survey Area and allowed jack-up rig transport activities to commence, began on 15 September at 13:27. At 13:43, more than 20 belugas were observed offshore of and near the mouth of the Theodore River, outside of the Aerial Survey Area. The survey continued along pre-established transects in the Aerial Survey Area, spaced approximately 3 km (1.9 mi) apart. No additional belugas were observed, and the survey concluded at 14:59.

Two Protected Species Observes (PSOs) onboard the *Spartan 151*, one on the port side and one on the starborad side, began watch at 21:00 on 15 September to clear the 1.5 km (0.93 mi) clearance zone. No marine mammals were observed within the clearance zone during this time. PSOs remained on watch while the tugs hooked up and until the jack-up rig was pinned at Rig Tenders Dock. At 22:19, the tugs began transiting with the jack-up rig.

At 05:30 on 16 September, the tugs began holding the jack-up rig offshore of the Rig Tenders Dock to wait for the morning high tide. At 07:45, the tugs began positioning the jack-up rig and at 10:17, the jack-up rig was pinned immediately adjacent to the Rig Tenders Dock for winter storage on the first attempt and tugs were no longer under load. Post-clearance monitoring was complete at 10:52 on 16 September.

The tugs were mobile towing the jack-up rig for approximately 7.5 hours during nighttime darkness and were holding or positioing the jack-up rig for 1 hour during nightime darkness and 3.5 hours during daylight. The tugs transported the jack-up rig at night to move with the favorable outgoing tide and reduce engine load requirements and therefore sound in the marine environment. During periods of darkness, PSOs used PVS-7 night-vision devices (NVDs) to aid in monitoring.

In total, the tugs towing the jack-up rig transited approximately 37 km (23 mi) with an approximate time under load (transiting, holding, or positioning) of 12 hours, and nearly 14 hours while jack-up rig-based PSOs were on watch.

2.1.2 June 2023 Transport

From 8 to 9 June 2023, the *Spartan 151* jack-up rig was transported via three ocean-going tugs (*Dr. Hank Kaplan, Bering Wind, and Stellar Wind*) from the Rig Tenders Dock in Nikiski to subsea Well Site 17589 for plug and abandonment (P&A) activities (Table 1). Table 3 includes location information for Well 17589.

Table 3. Location of Well 17589.

Site	Latitude[1]	Longitude[1]
Well 17589	61.068583	-150.94515

[1]DD NAD83

Before mobilization began, an aerial survey was required to determine that the Aerial Survey Area was visibly clear of belugas within 12 hours of the planned departure time. Eleven aerial surveys were required to clear the Aerial Survey Area. The final aerial survey, which cleared the Aerial Survey Area and allowed jack-up rig transport activities to commence, began on 8 June at 17:33 taking off from the Beluga Airport and began on Line 10 (furthest from shore) flying north to south until all trasect lines were completed. The survey ended at 18:41 with no belugas observed within the Aerial Survey Area.

Two PSOs onboard the *Spartan 151*, one on the port side and one on the starboard side, began watch at 20:00 on 8 June to clear the 1.5 km (0.93 mi) clearance zone. No marine mammals were observed within the clearance zone during pre-clearance watch. PSOs remained on watch continuously and at 20:51 the tugs began hooking up to the *Spartan 151*. By 21:18, all three tugs were under load and began transiting. At 22:15 the tugs held the rig under power offshore while awaiting the next morning's favorable tide to continue to transit to Well Site 17589. At 04:30, the tugs began to transit again while under load and began positioning the jack-up rig on location at 11:30. At 12:30, the legs were pinned at location above Well Site 17589 on the first attempt, the tugs were no longer under load, and post-activity monitoring began. At 13:00, post-activity monitoring ended, and all three tugs had been disconnected from the *Spartan 151*.

In total, the tugs towing the jack-up rig transited approximately 42 km (26 mi) with an approximate time under load (transiting, holding, or positioning) of 15.2 hours, and 17 hours while jack-up rig-based PSOs were on watch.

2.1.3 July 2023 Transport

From 13 to 14 July 2023, Hilcorp transported the *Spartan 151* jack-up rig from subsea Well 17589 to the Tyonek platform for production drilling (Figure 1). Table 2. Location of Tyonek Platform includes location information for the Tyonek platform. Hilcorp transported the *Spartan 151* jack-up rig from Well Site 17589 to the Tyonek Platform via three tugs, with a fourth support tug following (*Dr. Hank Kaplan*, *Glacier Wind*, *Bering Wind*, and *Stellar Wind*). There were four tugs present for jack-up rig activities and towing, however, only three tugs were ever under load during transit (towing), with the fourth engaging only to assist with positioning activities once the *Spartan 151* reached the Tyonek platform.

Before operations began, an aerial survey was required to determine that the Aerial Survey Area was visibly clear of belugas within 12 hours of the planned departure time. Six aerial surveys were required to clear the Aerial Survey Area. The final aerial survey, which cleared the Aerial Survey Area and allowed jack-up rig transport activities to commence, began on 13 July at 16:45 taking off from the Beluga Airport and began on transect Line 1 (closest to shore) flying south to north until all trasect lines were completed. The survey ended at 17:38 with no belugas observed within the Aerial Survey Area.

Two PSOs onboard the *Spartan 151*, one on the port side and one on the starboard side, began watch at 21:30 on 13 July to clear the 1.5 km (0.93 mi) pre-activity clearance zone. No marine mammals were observed within the clearance zone during pre-clearance watch which started at 21:30 and ended at 23:11. PSOs remained on watch continuously, and at 22:30 the tugs began hooking up to the *Spartan 151*, and by 23:11 the tugs were under load and began transiting. At 00:45 the tugs held the rig under power offshore while awaiting the next morning's favorable tide to continue transit to the Tyonek Platform. At 03:20 the tugs began to transit again while under load, and after arriving onsite at the Tyonek Platform, began positioning the jack-up rig at 05:02. At 08:35, the legs were pinned at location at the Tyonek Platform on the first attempt, the tugs were no longer under load, and post-activity monitoring began. At 09:05, post-activity monitoring ended, and all tugs were disconnected from the *Spartan 151*. The tugs towing the jack-up rig transited approximately 9.65 km (6 mi) with an approximate time under load (transiting, holding, or positioning) of 9.4 hours, and 11.6 hours while jack-up rig-based PSO were on watch.

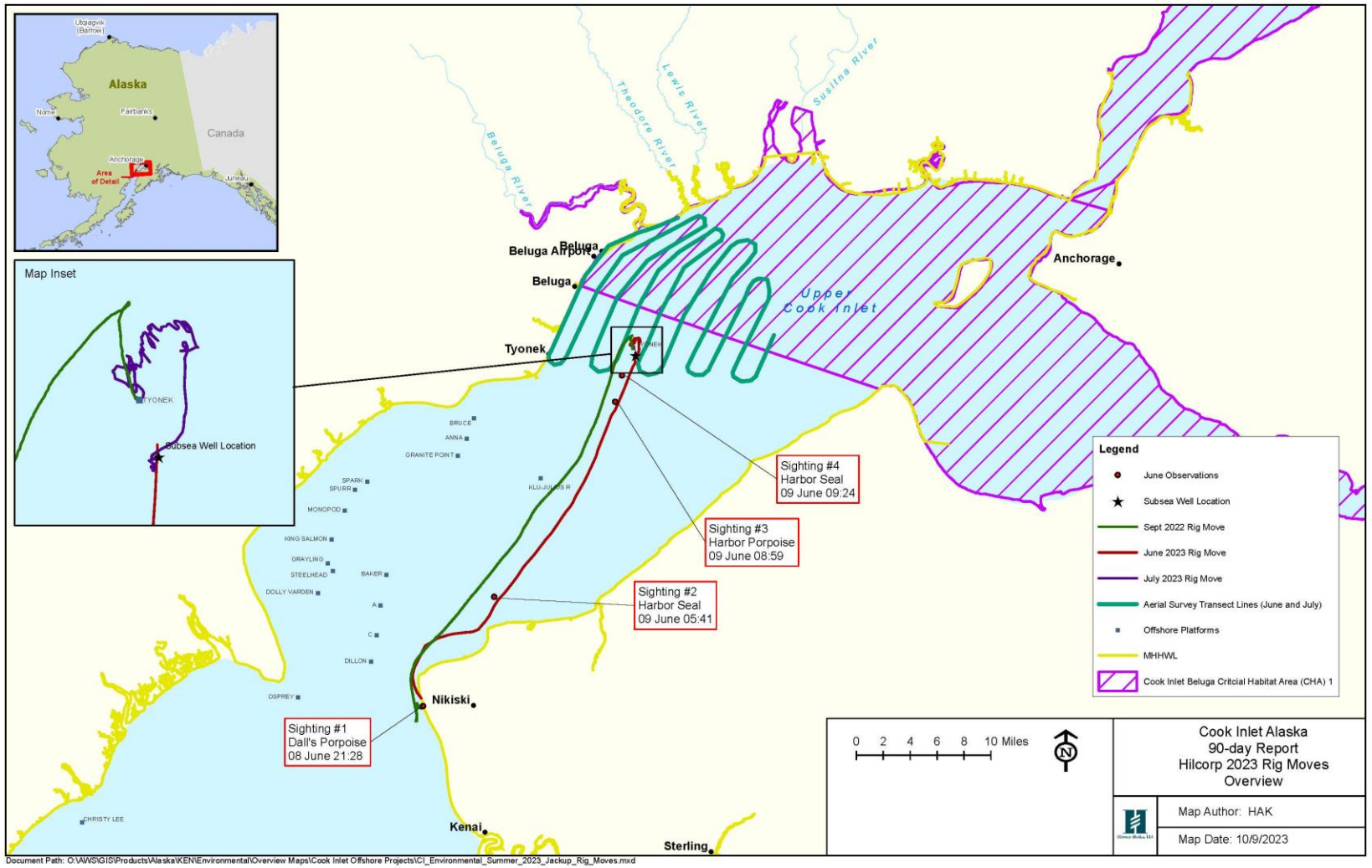


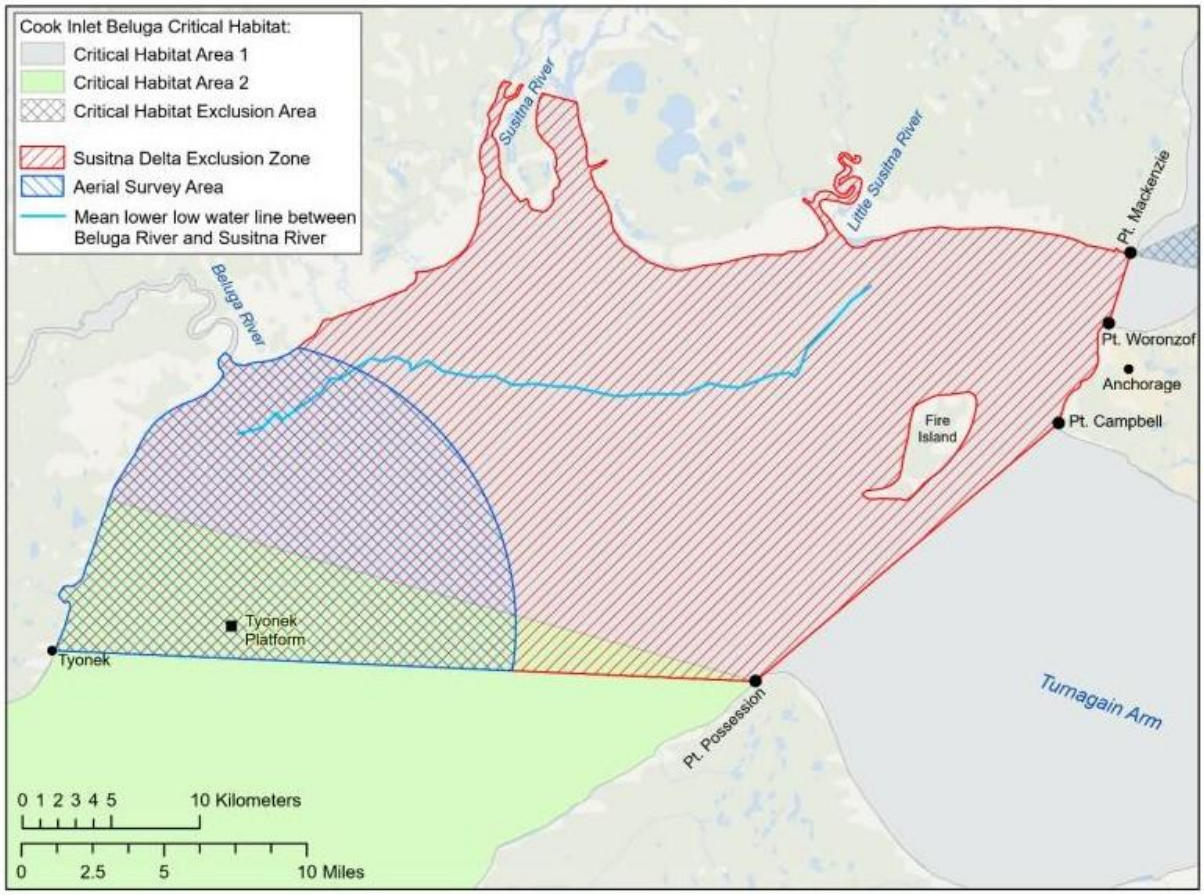
Figure 1. Flight Transects, Sightings, and Jack-up Rig Transit Routes on 14-15 September 2022, 8-9 June 2023, and 13-14 July 2023

2.1.4 Description of Aerial Surveys

Before mobilization could begin, an aerial survey of the Aerial Survey Area (see Figure 2) was required to determine that the Aerial Survey Area was visibly clear of beluga whales within 12 hours of the planned time tugs would be under load with the *Spartan 151* jack-up rig. Two aerial surveys were required to clear the Aerial Survey Area in September 2022, eleven in June 2023, and six in July 2023.

Aerial surveys were flown by Hilcorp Aviation in a Viking DHC-6 Twin Otter fixed-wing aircraft. Two PSOs, one on each side of the plane, flew the surveys in order to have a 360-degree (˚) field of vision, except for the final survey attempt in June 2023 when the Lead Aerial PSO observed alone due to motion sickness as a result of turbulence affecting the second PSO. PSOs on the aerial surveys were outfitted with binoculars, a camera, GPS, and a field notebook. Effort data, observations, and flight details were recorded in a field notebook during flights and later transcribed into a summary report for Weston Solutions, Inc. (Weston) by the Lead Aerial PSO.

Figure 1 shows the aerial survey transect lines flown prior to tugs engaging in *Spartan 151* transport activities during Year 1.



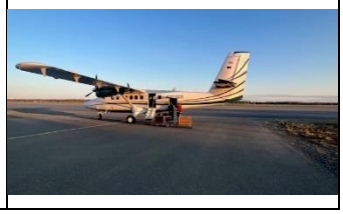
Source: NMFS 2022. Endangered Species Act (ESA) Section 7(a)(2) Biological Opinion, Hilcorp Cook Inlet Tugs Towing a Jack-up Rig, NMFS Consultation Number: AKRO-2021-03484. September 9, 2022. https://doi.org/10.25923/060g-xs68

Figure 2. Aerial Survey Area

2.2 Description of Vessels and Aircraft

The following were utilized for specific operations in support of Year 1 jack-up rig transports: four tugboats (*Dr. Hank Kaplan, Stellar Wind, Bering Wind, Glacier Wind*), one fixed-wing aircraft (Viking DHC-6 Twin Otter) and one jack-up rig (*Spartan 151)*. Table 4 provides more information on the vessels, aircraft, and jack-up rig.

Table 4. Hilcorp Year 1 Project Vessel, Aircraft, and Jack-up Rig Information

Name	Primary Activity	Specifications	Photo
Dr. Hank Kaplan	Tug used to tow, hold, and position the *Spartan 151* jack-up rig	80 foot length x 36 foot width 12 – 15.8 foot draft US Flag	
Stellar Wind	Tug used to tow, hold, and position the *Spartan 151* jack-up rig	85 foot length x 30 foot width 10 – 12.5 foot draft US Flag	
Bering Wind	Tug used to tow, hold, and position the *Spartan 151* jack-up rig	73.4 foot length x 34 foot width 13.5 - 15 foot draft US Flag	
Glacier Wind	Tug used to tow, hold, and/or position the *Spartan 151* jack-up rig[1]	65 foot length x 26 foot width 12 foot load draft US Flag	
Viking DHC-6 Twin Otter	Fixed wing aircraft used to conduct Aerial Surveys prior to commencement of Spartan 151 transports	Twin-engine turbo-prop aircraft	

Name	Primary Activity	Specifications	Photo
Spartan 151	Jack-up drill rig used for well abandonment and production drilling activities	150 H Class independent leg, catilevered jack-up drill rig	

[1]The *Glacier Wind* was used to tow, hold, and position the *Spartan 151* during the September 2022 transport and only used to position the jack-up rig during the July 2023 transport.

3 Marine Mammal Monitoring and Mitigation Program

The IHA issued to Hilcorp by NMFS authorized small numbers of takes, by Level B harassment, for 12 NMFS-managed marine mammal species (Table 5). The taking by injury, serious injury, or death (Level A harassment) of any of the species listed in condition 3(b) of the IHA or any taking of any other species of marine mammal is prohibited. No Level A takes occurred of any species, nor were any marine mammal species outside of those listed in Table 5 observed.

Table 5. Marine Mammal Takes Authorized under Hilcorp's Year 1 IHA

Species	Scientific Name	Stock	Allowable Level B Takes
Humpback whale	*Megaptera novaeangliae*	Western North Pacific, Central North Pacific	5
Minke whale	*Balaenoptera acutorostrata*	Alaska	6
Gray whale	*Eschrichtius robustus*	Eastern Pacific	2
Fin whale	*Balaenoptera physalus*	Northeastern Pacific	4
Killer whale	*Orcinus orca*	Alaska Resident Gulf of Alaska, Aleutian Islands, and Bering Sea Transient	10
Beluga whale	*Delphinapterus leucas*	Cook Inlet	11
Pacific white-sided dolphin	*Lagenorhynchus obliquidens*	North Pacific	3
Dall's porpoise	*Phocoenoides dalli*	Alaska	6
Harbor porpoise	*Phocoena phocoena*	Gulf of Alaska	44
Harbor seal	*Phoca vitulina*	Cook Inlet/ Shelikof	418
Steller sea lion	*Eumetopias jubatus*	Western	13
California sea lion	*Zalophus californianus*	U.S.	2

To support Hilcorp's Cook Inlet Year 1 operations, jack-up rig- and aircraft-based PSOs were employed for marine mammal monitoring and mitigation. PSOs had two primary objectives:

1. **Monitoring**: Record numbers, behaviors, and locations of marine mammals. Document animal reactions (when applicable), and environmental variables that may affect the ability to sight marine mammals.

2. **Mitigation:** Initiate necessary communication and/or mitigation protocols for marine mammals within, or about to enter, the applicable zones.

Monitoring included recording species, count, behaviors, reactions, and locations of marine mammals during operations and transit. Mitigation involved communications between vessels and aircraft, tugs and the rig, and PSO and operational teams to ensure protocols were followed and mitigation was implemented if necessary.

All PSOs received pre-field training prior to the start of each project. Training included project and permit compliance overview, marine mammal species identification, data collection and equipment use protocols, communication strategies, and a health and safety review.

3.1 Data Collection

3.1.1 Transport of *Spartan 151* Jack-up Rig

PSOs collected effort and sightings data to construct a complete picture of observations in the context of project activities. PSOs on the jack-up rig were outfitted with image stabilizing binoculars, reticle binoculars, rangefinders, cameras, 2-way radios, a global positioning system (GPS) unit, field notebooks, and laptops for data entry. PSOs on the aerial surveys were outfitted with binoculars, a camera, GPS, and a field notebook. Data were collected using an electronic observation log. Effort data were entered every 30 minutes, every shift change, and upon any change in vessel activity or environmental conditions. Marine mammal sightings were recorded immediately upon observation.

Aerial surveys occurred prior to commencement of the tugs transporting the jack-up rig. The intent of the surveys was to determine presence/absence of belugas in marine waters within Aerial Survey Area (Figure 2) within 12 hours of the scheduled time tugs would engage for jack-up rig transport activities. Transects were flown at approximately 3-km (1.9-mi) spacing and at approximately 1,000-foot altitude. The pilots were given GIS files of the planned transect lines to use as guidance during the survey. Effort data, observations, and flight details were recorded in a field notebook during each flight and then later transcribed into a summary report by the Lead Aerial PSO.

All data files were quality assured/quality controlled (QA/QCed) by the Field Lead PSO. Aerial data were QA/QCed by the Lead Aerial PSO. Vessel and supplemental forms were also emailed to Weston upon completion of the observation effort. The Weston Data Manager QA/QCed the observation logs, saved an internal copy, and then submited a copy to Hilcorp. The Weston Project Manager processed all other received forms and performed regular check-ins with the PSOs.

3.1.2 Reporting Injured or Dead Marine Mammals

PSOs were to follow the below protocol for any injured or dead marine mammals observed in the monitoring area; however, none were observed during Hilcorp's Year 1 activities.

In the event personnel involved in Hilcorp's activities discover an injured or dead marine mammal, the holder of the IHA (Hilcorp) must report the incident to the Office of Protected Resources (OPR), NMFS (PR.ITP.MonitoringReports@noaa.gov and sara.young@noaa.gov) and to the Alaska Regional Stranding Network [(877) 925-7773] as soon as feasible. If the death or injury was clearly caused by the specified activity, the holder of the IHA (Hilcorp) must immediately cease the activities until NMFS OPR is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate

to ensure compliance with the terms of the IHA. The holder of the IHA (Hilcorp) must not resume activities until notified by NMFS.

The report must include the following information:

(i) Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);

(ii) Species identification (if known) or description of the animal(s) involved;

(iii) Condition of the animal(s) (including carcass condition if the animal is dead);

(iv) Observed behaviors of the animal(s), if alive;

(v) If viable, photographs or video footage of the animal(s); and

(vi) General circumstances under which the animal was discovered.

3.2 Mitigation Measures

Hilcorp adhered to mitigation and monitoring methods as required in the IHA, associated Biological Opinion, and as outlined in Hilcorp's Marine Mammal Mitigation and Monitoring Plan submitted in conjunction with the IHA request. Mitigation measures implemented for *Spartan 151* transports during Year 1 included the following:

a) Hilcorp must establish a clearance zone that extends 1.5 km from the tug or jack-up rig on which the protected species observers (PSOs) are positioned.

b) Prior to commencing operational activities in daylight hours, two NMFS-approved PSOs must observe the clearance zone for 30 minutes; if no marine mammals are observed within those 30 minutes, activities may commence.

c) Prior to commencing operational activities in nighttime hours, two NMFS-approved PSOs must observe the extent visible for 30 minutes while using night vision devices; if no marine mammals are observed within those 30 minutes, activities may commence.

d) If a marine mammal is observed within the clearance zone during the pre-activity clearing, operations may not commence until the PSO observes one of the following:

    (i) The animal is outside of and on a path away from the clearance zone, or

    (ii) For pinnipeds and small cetaceans – 15 minutes without observing the marine mammal have elapsed; for baleen and beluga whales – 30 minutes have elapsed without observing the marine mammal.

e) Should a marine mammal be observed during tugs towing the jack-up rig, the PSO must monitor and carefully record any reactions observed until the towing or positioning is concluded. No new

operational activities may be started until the animal leaves the clearance zone. Shifting from towing to positioning without shutting down is not considered a new operational activity.

f) Hilcorp must conduct tug towing rig activities with a favorable tide unless human safety or equipment integrity are at risk.

g) Hilcorp may only conduct tug towing rig activities at night if necessary to accommodate a favorable tide.

h) Hilcorp must abide by NMFS marine mammal viewing guidelines while operating additional equipment or vessels related to this project; including not actively approaching marine mammals within 100 yards and slowing vessels to the minimum speed necessary.

i) If a species for which authorization has not been granted, or a species for which authorization has been granted but the authorized takes have been reached, is observed approaching or within the clearance zone, in-water work must be delayed or shut-down (other than tug towing jack-up rig activity if already initiated). Activities must not resume until the animal has been confirmed to have left the area or the observation time period, as indicated in 4 (d) above, has elapsed.

j) Hilcorp will not conduct noise-producing activity within 16 km (10 miles) of the mean lower-low water line of the Susitna River Delta (Beluga River to the Little Susitna River) with the southern boundary ending at a line drawn between Tyonek Village and Point Possession between April 15 and November 15, with the exception of work conducted at the pre-existing Tyonek platform.

k) Prior to tugging or positioning the jack-up rig adjacent to the Tyonek platform, Hilcorp will conduct a systematic aerial survey of all marine waters within a 10 mile radius of the Tyonek platform that intersects with the Susitna Delta exclusion zone, termed the aerial survey area (see Figure 2) to sensure the area is clear of beluga whales. Aerial surveys will be flown with a PSO observing for beluga whales at an altitude of approximately 1,000 feet.

    (i) This survey will be conducted no mare than 12 hours prior to the proposed departure of the rig from its moored or anchored location.

    (ii) If beluga whales are observed during the above aerial survey prior to mobilizing the jack-up rig to or from the Tyonek platform, Hilcorp will not begin mobilization of the rig until a subsequent aerial survey indicates the aerial survey area contains no beluga whales.

    (iii) Starting from the proposed departure date, Hilcorp will conduct aerial surveys as described above and if belugas are seen in the aerial survey area will defer moving the jack-up rig if there is another departure date that fits the tide/tug criteria for moving onto and off the dock within 8 days.

    (iv) If the rig move is deferred until the next departure window occurring within 8 days of the first proposed departure date, Hilcorp will again conduct aerial surveys and will defer moving the rig until the last available tide for departure

that allows the tugs to complete the transport in that second departure timeframe. If beluga whales are observed in the aerial survey area prior to the last available tide in the already deferred second departure time-frame, Hilcorp will move the jack-up rig to its next location.

(v) If there is not another departure date within 8 days of the first proposed departure date, Hilcorp will conduct multiple aerial surveys (weather permitting) and if belugas are seen in the aerial survey area will defer moving the rig until the last available tide in the initial departure window that coincides with tug availability.

(vi) If ice or other safety conditions exist that require the tugs to move the jack-up rig to preserve human safety, Hilcorp will move the jack-up rig to its next location even if the belugas are observed in the 10-mile raduius on the aerial surveys.

4 Marine Mammal Observation Analysis

4.1 Monitoring Effort

4.1.1 September 2022 Transport of *Spartan 151* Jack-up Rig

Jack-up rig-based PSOs observed for a combined total of 27.74 hours in September 2022. PSO observations from the *Spartan 151* began at 21:00 on 15 September 2022 at the Tyonek Platform and ended at 10:52 on 16 September 2022 at Rig Tenders Dock. PSOs rotated shifts every four hours at a minimum and generally watched for marine mammals from the best available vantage point on both the port and starboard sides of the jack-up rig platform. PSOs monitored 360° around the jack-up rig and out to the horizon; however, the majority of the effort was directed forward of the transiting vessels.

Two aerial PSOs flew transects spaced approximately 3-km (1.9 mi) apart in the Aerial Survey Area to detect presence/absence of belugas (See Figures 1 and 2). The aerial survey aircraft flew along the established transect lines, alternating starting points with the beginning of each survey attempt based on the direction of the Weston PSO Manager (e.g., transect closest to shore, transect furthest from shore, north to south travel, south to north travel). The first aerial survey began on 15 September at 08:10 and ended after belugas were observed within the Aerial Survey Area twice. The second aerial survey began on 15 September at 13:27 and ended at 14:59 for a total of 92 minutes. The combined total PSO effort during the September 2022 jack-up rig transport was 31.95 hours and is summarized in Table 6.

Table 6. Total Number of PSO Observation (Effort) Hours for September 2022

Observing Location	Date	Total No. Effort Hours
Aerial Survey #1	15 September 2022	1.14
Aerial Survey #2	15 September 2022	3.07
Jack-up Rig (*Spartan 151*)	15-16 September 2023	27.74
Total		**31.95**

4.1.2 June 2023 Transport of *Spartan 151* Jack-up Rig

Two PSOs were on watch at a time on the jack-up rig and observed for a total of 34 hours of jack-up rig PSO effort in June 2023. PSO observations from the *Spartan 151* began at 20:00 on 8 June at Rig Tenders Dock in Nikiski and ended at 13:00 on 9 June over subsea Well Site 17589. PSOs rotated shifts every four hours at a minimum and generally watched for marine mammals from the best available vantage point on both the port and starboard sides of the jack-up rig platform, at times utilizing the *Spartan 151's* heliport area. PSOs monitored 360° around the jack-up rig and out to the horizon; however, the majority of effort was directed forward of the transiting vessels.

The aerial survey aircraft flew transects spaced approximately 3-km (1.9 mi) apart in the Aerial Survey Area to detect presence/absence of belugas (See Figures 1 and 2). The Aerial Survey aircraft flew along the established transect lines, alternating starting points with the beginning of each survey attempt based on the direction of the Weston PSO Manager (e.g., transect closest to shore, transect furthest from shore,

north to south travel, south to north travel). Two PSOs, one on each side of the plane, flew the surveys in order to have a 360˚ field of vision, except for the final survey attempt when the Lead Aerial PSO observed alone due to motion sickness as a result of turbulence affecting the second PSO.

The first three Aerial Survey attempts made between 31 May and 1 June were all completed and found the Aerial Survey Area to be clear of belugas; however, adverse weather conditions in Cook Inlet, sea conditions, tide limitations, and limited tug availability contributed to the jack-up rig transport activity being rescheduled for 8 June. The final aerial survey occurred on 8 June from 17:42 to 18:41 with no beluga sightings in the Aerial Survey Area, providing the opportunity for the *Spartan 151* to be moved on the 21:49 high-tide. A total of 46.06 effort hours (12.06 hours for aerial surveys; 34 hours for rig-based observations) were amassed during June jack-up rig transport activities.

Table 7 summarizes PSO effort during June jack-up rig transport activities.

Table 7. Total Number of PSO Observation (Effort) Hours for June 2023

Observing Location	Date	Total No. Effort Hours
Aerial Survey #1	31 May	2.32
Aerial Survey #2	1 June	2.44
Aerial Survey #3	1 June	2.24
Aerial Survey #4	8 June	0.04
Aerial Survey #5	8 June	0.06
Aerial Survey #6	8 June	1.5
Aerial Survey #7	8 June	0.96
Aerial Survey #8	8 June	0.16
Aerial Survey #9	8 June	0.66
Aerial Survey #10	8 June	0.70
Aerial Survey #11	8 June	0.98
Jack-up Rig (*Spartan 151*)	8-9 June	34
Total		**46.06**

4.1.3 July 2023 Transport of *Spartan 151* Jack-up Rig

Two PSOs were on watch at a time on the jack-up rig and observed for a total of 23.16 hours of jack-up rig PSO effort in July 2023. PSO observations from the *Spartan 151* began at 21:30 on 13 July at subsea Well Site 17589 and ended at 09:05 on 14 July at the Tyonek platform. PSOs rotated shifts every four hours at a minimum, and generally watched for marine mammals from the best available vantage point on both the port and starboard sides of the jack-up rig platform, at times utilizing the *Spartan 151's* heliport

area. PSOs monitored 360° around the jack-up rig and out to the horizon; however, the majority of effort was directed forward of the transiting vessels.

The aerial survey aircraft flew transects spaced approximately 3-km (1.9 mi) apart in the Aerial Survey Area to detect presence/absence of belugas (See Figures 1 and 2). The Aerial Survey aircraft flew along the established transect lines, alternating starting points with the beginning of each survey attempt based on the direction of the Weston PSO Manager (e.g., transect closest to shore, transect furthest from shore, north to south travel, south to north travel). The final aerial survey occurred on 13 July 2023 from 16:45 to 17:38 with no beluga sightings in the Aerial Survey Area, providing the opportunity for *Spartan 151* transport activities to commence. A total of 27.42 effort hours (4.26 hours for aerial surveys; 23.16 hours for rig-based observations) were amassed during July 2023 jack-up rig transport activities. Table 8 summarizes PSO effort during July jack-up rig move activities.

Table 8. Total Number of PSO Observation (Effort) Hours for July 2023

Observing Location	Date	Total No. Effort Hours
Aerial Survey #1	13 July	0.6
Aerial Survey #2	13 July	0.34
Aerial Survey #3	13 July	0.06
Aerial Survey #4	13 July	0.06
Aerial Survey #5	13 July	1.44
Aerial Survey #6	13 July	1.76
Jack-up Rig (*Spartan 151*)	13-14 July	23.16
Total		**27.42**

4.2 Environmental Conditions

Environmental conditions can impact the ability to detect marine mammals in a survey area. Documented environmental conditions included Beaufort sea state and visibility. Beaufort sea state was represented by Beaufort sea state 0 to 12. Visibility was represented at distances of less then .5 km (‘Bad’), 0.5 to 1.5 km (‘Poor’), 1.5 to 10 km (‘Moderate’), 10 to 15 km (‘Good’), and greater than 15 km (‘Excellent’). Percent glare was also collected.

4.2.1 September 2022 Transport of *Spartan 151* Jack-up Rig

Environmental conditions were conducive to favorably monitor marine mammals during aerial survey activities. Visibility during the aerial surveys was 5 km (3.1 mi) or greater, with a Beaufort sea state of 4 or less and no glare reported.

Approximately 9.5 hours of monitoring occurred during periods of darkness (nighttime), resulting in ‘Good’ visibility (10 to 15 km) only 24.30 percent of the time, ‘Moderate’ visibility (1.5 to 10 km) 3.61 percent of the time, with ‘Poor’ visibility (0.5 to 1.5 km) and ‘Bad’ visibility (less than 5 km) 36.05

percent of the monitoring time while jack-up rig-based PSOs were on watch. Weather conditions varied as well during PSO monitoring and were recorded as "Sunny" for 7.21 percent of the time, "Partly Cloudy" for 13.95 percent of the time, "Dark" for 68.49 percent of the time, "Twilight" for 7.21 percent of the time, and "Light Rain" for 3.14 percent of the time over the entirety of the monitoring period. Beaufort sea state was documented as 2 for 60.35 percent of the monitoring time, and 3 for 39.65 percent. No glare was reported during jack-up rig-based monitoring.

On 15 September, sunset was at 20:20 and civil twilight ended at 21:04. Civil twilight began at 06:45 and sunrise was at 07:29 on 16 September. This resulted in 9.5 hours of reduced visibility over the approximate 12-hour duration tugs were under load with the jack-up rig and 14 hours of jack-up rig-based PSO monitoring, during which PSOs used a combination of naked eye and NVDs for monitoring.

4.2.2 June 2023 Transport of *Spartan 151* Jack-up Rig

Environmental conditions were conducive to favorably monitor marine mammals during daytime activities for both the Aerial Surveys and from the jack-up rig. Visibility during aerial surveys was 'Good' (10 to 15 km), with a consistent Beaufort sea state of 3 or less and minimal glare.

On the port side, the PSOs reported 'Excellent' visibility (greater than 15 km) 79 percent of the monitoring, with the starboard side PSOs reporting 'Good' visibility (10 to 15 km) 81 percent of the time. Overall visibility during monitoring was 'Excellent' for 36.77 percent of the time, 'Good' for 39.71 percent, 'Moderate' for 14.71 percent, 'Poor' for 7.35 percent and no periods of 'Bad' visibility. In addition, during the brief period of darkness, the starboard side PSO on watch reported good visibility while using the night vision goggles with magnifier lens assembly.

The PSO weather observations reported "Cloudy" conditions for 57.35 percent of the time, "Partly Cloudy" conditions for 19.12 percent, "Sunny" for 1.47 percent, "Twilight" for 16.18 percent, and "Dark" for 5.88 percent of the time with minimal glare. Additionally, during the monitoring period there was a consistent Beaufort sea state of 1 for 50 percent of the time, and a sea state of 2 42.65 percent of the time, and a brief period of sea state 3 when PSOs initially began their watch.

Civil twilight occurred from roughly midnight to 04:30 on 8 June, with darkness occuring from 02:30 to 03:30. This resulted in approximately 4.5 hours of reduced visibility over the approximate 15-hour duration tugs were under load with the jack-up rig and 17 hours of jack-up rig-based PSO monitoring, during which PSOs used a combination of naked eye, NVDs, and NVD magnifying lens assemblies for monitoring.

4.2.3 July 2023 Transport of *Spartan 151* Jack-up Rig

Environmental conditions were conducive to favorably monitor marine mammals during daytime activities. Visibility during Aerial Surveys was 'Good' (10 to 15 km), with a consistent Beaufort sea state of 3 or less and minimal glare.

Overall visibility was reported as 'Excellent' (greater than 15 km) for 13.30 percent of the monitoring time, with an extended period of 'Good' visibility (10 to 15 km) for 34.89 percent of the time. Visibility was noted to be 'Moderate' (1.5 to 10 km) for 12.95 percent of the time and 'Poor' (0.5 to 1.5 km) for 32.38 percent of time, however, the majority of monitoring occurred during very favorable conditions, including a period of "NVD Moderate" visibility on the starboard side during twilight.

On the port side, the PSOs reported 'Good' visibility (10 to 15 km) for just about 50 percent of the monitoring period and 'Poor' visibility (0.5 to 1.5 km) for roughly 30 percent. The period of 'Poor' visibility for the port side occurred during civil twilight hours when visibility through hand-held binoculars was limited, and excessive ambient light rendered the NVDs less effective. The starboard side PSOs reported 'Excellent' visibility (greater than 15 km) 26 percent of the time, 'Good' visibility (10 to 15 km) 21.6 percent of the time, and 'Poor' visibility 34.5 percent of the monitoring time, and with a reduced amount of ambient light on that side, 'Moderate' visibility with the NVDs 12.95 percent of the time. The starboard side PSO recorded 'Poor' visibility during pre-clearance monitoring and while the tugs were getting under load, however, the PSO on watch confirmed that the entirety of the pre-clearance monitoring zone was visible during that time.

The PSO weather observations reported cloudy or partly cloudy conditions for almost the entirety of the monitoring period, with a brief occurrence of "Twilight" totaling 8.64 percent and "Darkness" reported for a 30-minute period resulting in 2.16 percent of monitoring time. Minimal glare was also reported, with a consistent Beaufort sea state of 2 for 75.91 percent of the monitoring period, and Beaufort sea state 3 for the remaining 24.09 percent of the time.

Nautical twilight began at midnight and ended at 04:53 on 14 July. Although complete darkness did not occur in middle Cook Inlet, visibility was reduced during periods of twilight for approximately 4.9 hours of the approximate 9.4 hours tugs were under load with the jack-up rig and 11.6 hours of jack-up rig-based PSO monitoring, prompting PSOs to use a combination of naked eye, NVDs, and NVD lenses for monitoring.

4.3 Visual Marine Mammal Observations

This section provides a brief narrative of each marine mammal sighting recorded during the *Spartan 151* tranportation activities in September 2022 and June and July 2023; and depicts marine mammal sightings that occurred during both transit of the rig and aerial surveys. A brief summary of any opportunistic sightings from both the jack-up rig-based and aerial survey PSOs is also included below. These opportunistic sightings include any occurrence where a PSO observed a marine mammal outside of required monitoring times or in between aerial surveys (e.g., prior to the start of sound-producing activity while the *Spartan 151* was docked at Rig Tenders, or prior to an aerial survey beginning, or once an aerial survey was ended due to the presence of belugas in the Aerial Survey Area and additional belugas were seen while en route to restart the survey). Data on the number of marine mammal sightings are presented to the species level whenever identification was possible in the sightings summary tables included in Appendix A.

4.3.1 September 2022 Transport of *Spartan 151* Jack-up Rig

Beluga whales were the only marine mammals sighted during aerial monitoring efforts during September 2022 operations. No marine mammals were observed by jack-up rig PSOs during jack-up rig transport activities, nor were there any opportunistic sightings.

There were three beluga whale sightings totaling more than 25 individuals during the aerial surveys on 15 September 2022, all of which occurred prior to the tugs being under load with the jack-up rig. See Appendix A for all sighting summary tables.

4.3.2 June 2023 Transport of *Spartan 151* Jack-up Rig

Beluga whales were the only marine mammals sighted during June 2023 aerial survey efforts, while a Dall's porpoise, two Harbor porpoises, and a Harbor seal were the only sightings that occurred by jack-up rig-based PSOs during the June transport. See Appendix A for all sighting summary tables.

There were 11 beluga whale sightings totaling approximately 43 belugas during the aerial surveys, all of which occurred prior to the tugs being under load with the jack-up rig. There were also 19 opportunistic sightings that included 1 harbor seal, 1 unknown porpoise, and 132 belugas. Additionally, there were a total of four marine mammal sightings observed by the rig-based PSOs, all of which occurred within the Level B zone, see below for sighting descriptions.

- On 8 June at 21:28, one Dall's porpoise was observed with the naked eye at 60.68817˚N, -151.39896˚W by the starboard side PSO while the tugs were transiting under load with the rig. The porpoise was approximately 300 meters from the PSO and approached within 250 meters of the stern of the *Dr. Hank Kaplan* while traveling west. The porpoise surfaced 6 to 10 times, showing a distinct white coloring on the dorsal fin. The duration of the sighting was 5 minutes.

- On 9 June at 05:41, one harbor seal was observed through binoculars by the port side PSO at 60.80684˚N, -151.24774˚W, approximately 500 meters west off the port side of the *Spartan 151*, and 400 meters southwest from the *Steller Wind* tug transiting off the *Spartan 151*'s bow. The seal was sighted as it was looking around at the water's surface, but then sank and did not resurface. The duration of the sighting was 2 minutes.

- On 9 June at 08:59, one harbor porpoise was observed through binoculars at 61.01811˚N, -150.98889˚W traveling quickly past the *Spartan 151* and heading west approximately 400 meters away from the jack-up rig and tugs while transiting. The porpoise surfaced 6 to 7 times and maintained a direct line of travel. The duration of the sighting was 3 minutes.

- On 9 June at 09:24, one harbor seal was observed through binoculars at 61.04624˚N, -150.97468˚W while at the surface looking around at approximately 350 meters to the west of the observer. The seal sank immediately and did not resurface. The duration of the sighting was 1 minute.

4.3.3 July 2023 Transport of the *Spartan 151* Jack-up Rig

There were no marine mammals observed by jack-up rig-based PSOs during Hilcorp's transport of the *Spartan 151* jack-up rig by tugs in Cook Inlet on 13 and 14 July. There were seven sightings with a total of approximately 57 white adult belugas observed during aerial surveys, all of which occurred prior to the tugs being under load with the jack-up rig. In addition, there were three opportunistic sightings totaling approximately 44 to 49 white adult belugas. See Appendix A for all sighting summary tables.

4.4 Evaluation of the Effectiveness of Night Vision Device Lens Extensions

Due to the environmental conditions and limited hours of darkness in Cook Inlet, Alaska, during the June and July 2023 jack-up rig transports, use of NVDs (including the magnifying lens assembly attachment)

was limited to 1 hour during June operations, and approximately 1.25 hours during July operations. Because of these narrow periods of use, only a limited discussion of the efficacy of night vision devices is possible. September 2022 effort is omitted from this analysis because NVD lens extensions had not been approved and were not available to the PSOs.

There were no marine mammal sightings documented during the intermittent use of NVDs and their magnifying lenses during June and July 2023 jack-up rig transports. NVD lens equipment specifications, environmental conditions during the periods of use, as well as notes and/or feedback captured by PSOs relating to the use and efficacy of the NVDs and magnifying lens assembly accessory are described below in further detail. For June and July 2023 operations, total PSO monitoring time with the use of NVDs alone was 1.25 hours and 1 hour for NVDs with the magnifying lens assembly attached.

Rig-based PSOs were equipped with AGM Global Vision PVS-7 Night Vision goggles with an AGM Global Vision Afocal 5X Magnifier Lens Assembly attachment which connects directly onto the standard PVS-7 lens for increased long-range observation (up to 1500 m) during June and July 2023 jack-up rig transports. Table 9 provides a review of the magnifier lens assembly specifications.

Table 9. AGM Global Vision Afocal Magnifier Lens Assembly, 5X Specification Sheet

AGM Global Vision Afocal Magnifier Lens Assembly, 5X		
Magnification	5	
FOV	≥7.5˚	
Resolution	≤3.65”	
Light Transmission (400-900 nm)	≥90%	
Waterproof	1meter/30 minutes	
Storage Temperature	-57˚C to +65˚C	
Connecting Thread	M28 x 0.75	
Dimension (without caps)	75.5 x 75.5 x 85 mm	
Weight	325 g	

X = times
≥ = greater than or equal to
≤ = less than or equal to
˚ = degree(s)
% = percent
C = Celsius
mm = millimeter(s)
g = gram(s)

During the June 2023 jack-up rig transport, NVDs with magnifier lens assemblies were used intermittently for 1 hour from 02:30 to 03:30 on 9 June by both PSOs on shift, during the only period where PSOs documented weather conditions as “dark”. Under twilight conditions from approximately 01:00 to 02:30, the PSOs noted use of NVDs was not advantageous due to the amount of ambient light present from both the artificial lighting from the *Spartan 151* rig, and residual ambient light from the moon. For the evening of 8 June into the early morning of 9 June, the moon was in the waning gibbous phase when approximately 75 percent of the moon’s surface was illuminated. Between 02:30 and 03:30 on 9 June, both PSOs on shift noted that “visibility was very clear when away from light” and they had “very good visibility” while using the NVDs with the magnifier lens. At 03:30, both PSOs indicated that as light increased from daybreak, lenses became more distorted and use of NVDs with magnifier was no longer advantageous or necessary. There were no detections or marine mammal sightings during the June 2023 jack-up rig transport while NVDs were in use.

During the July 2023 jack-up rig transport, NVDs were used by rig-based PSOs intermittently for 1 hour and 15 minutes from 02:00 to 03:20 on 14 July (by the port side PSO) and 1 hour and 11 minutes from 02:00 to 03:11 on 14 July (by the starboard side PSO) with weather conditions ranging from dark, cloudy, and twilight conditions. However, the NVDs were used during those monitoring periods without the magnifier lens assembly attachment as it was noted that due to the amount of ambient light from the *Spartan 151* and the tugs, hand-held binoculars were rendered equally effective and PSOs alternated between using NVDs, binoculars, and the naked eye. For the evening of 13 July into the early morning of 14 July, the moon was in the waning crescent phase with approximately 20 percent of the moon's surface illuminated. Between 03:11 and 03:20, both PSOs on watch ended use of NVDs due to the increase of ambient light from approaching sunrise. There were no detections or marine mammal sightings during the July 2023 jack-up rig transport while NVDs were in use.

Feedback was gathered from PSOs on the performance of the AGM Global Vision Afocal Magnifier Lens Assembly, 5X, which could lead to best-use practices in the future, including:

- Field of view is easily compromised from ambient light while using NVDs with magnifier lens assembly.
- With magnifier lens assembly attached, NVD goggles are easier to use as a hand-held device as opposed to as a head mounted device. The magnifying lens assembly does not protrude excessively from the NVD goggles; however, it is easier to support the slight addition of weight and length with hand-held use.
- The snap on/off connection feature of the magnifier lens assembly allows for a quick and easy transition from NVD goggles to long-range NVDs in the event of a suspected sighting or detection.
- The detection range is drastically increased with the use of the magnifier lens assembly.
- Noting the approximate distance to fixed locations during daylight operations is helpful in gauging detection distance while using the NVDs and magnifier lens assemblies during periods of darkness or decreased visibility.

5 Summary

Hilcorp's in-water activities in Cook Inlet during Year 1 were comprised of three *Spartan 151* transports using tugs.

In September 2022, there were three sightings totaling more than 25 belugas observed during aerial surveys, all of which occurred prior to tugs being under load with the jack-up rig. There were no marine mammals observed by the jack-up rig-base PSOs during the September 2022 *Spartan 151* transport, nor were there any opportunistic sightings. There were no Level B exposures during September 2022 jack-up rig transport operations in Cook Inlet. All mitigation measures were implemented, as appropriate.

Four marine mammals were observed within the Level B zone by jack-up rig-based PSOs during the June 2023 *Spartan 151* transport: one Dall's porpoise, one harbor porpoise, and two harbor seals were all sighted within 400 meters or less from the tugs towing the jack-up rig. There were 11 sightings totaling approximately 43 belugas observed during aerial surveys, all of which occurred prior to tugs being under load with the jack-up rig. In addition, there were 19 opportunistic sightings that included 1 harbor seal, 1 unknown porpoise, and 132 belugas (130 white, 2 gray). Opportunistic sightings include any occurrence where a PSO observed a marine mammal outside of required monitoring times or in between aerial surveys (e.g., prior to the start of sound-producing activity, or prior to an aerial survey beginning, or once an aerial survey was ended). All mitigation measures were implemented as appropriate.

There were no marine mammals observed by jack-up rig-based PSOs during the July 2023 *Spartan 151* transport. There were seven sightings with a total of approximately 57 white adult belugas observed during aerial surveys, all of which occurred prior to the tugs being under load with the jack-up rig. In addition, there were three opportunistic sightings totaling approximately 44 to 49 white adult belugas. Opportunistic sightings include any occurrence where a PSO observed a marine mammal outside of required monitoring times or in between aerial surveys (e.g., prior to the start of sound-producing activity, or prior to an aerial survey beginning, or once an aerial survey was ended). There were no Level B exposures during July 2023 jack-up rig transport operations in Cook Inlet. All mitigation measures were implemented, as appropriate.

APPENDIX A

Sighting Summary Tables

Table A.1. Summary of Aerial Survey Beluga Sightings during Hilcorp Year 1 Cook Inlet Activities in 2023

Date of Survey	Aerial Survey Number	Time (hh:mm)	Observing Location (Latitude/Longitude)[1]	Number of Belugas (Adult/Juvenile)	Within the Aerial Survey Area? (yes/no)
15 September 2022	1	08:26	61.0738333, -151.1243333	4 Adults	Yes
15 September 2022	1	08:58	61.16083333, -151.0175	1 Adult	Yes
15 September 2022	2	13:43	61.20183333, -150.7976667	>20 Adults	No
8 June 2023	4	10:13	61.19599, -150.94653	7-8 Adults	Yes
8 June 2023	5	10:20	61.12707, -151.07794	1 Adult	Yes
8 June 2023	5	10:20	61.13895, -151.06744	6 Adults	Yes
8 June 2023	6	11:13	61.1393, -150.97665	1 Adult	Yes
8 June 2023	7	12:06	61.19212, -150.73036	2-3 Adults	No
8 June 2023	7	12:09	61.16902, -150.82335	1 Adult	Yes
8 June 2023	8	14:34	61.21349, -150.86200	12 Adults	No
8 June 2023	8	14:39	61.13788, -151.0706	2 Adults, 2 Juveniles	Yes
8 June 2023	9	16:34	61.16484, -150.90999	6 Adults	Yes
8 June 2023	9	16:34	61.16395, -150.9296	*Same 6 Adults as above	Yes
8 June 2023	10	17:04	61.16479, -150.93173	1 Adult	Yes
13 July 2023	1	10:18	61.17772, -150.89743 and 61.161158, -150.91573	5 Adults	Yes
13 July 2023	2	10:57	61.16214, -150.977	>30 Adults	Yes
13 July 2023	3	14:44	61.19769, -150.9497	1 Adult	Yes
13 July 2023	4	15:00	61.19995, -150.9397	4 Adults	Yes
13 July 2023	5	15:49	61.21235, -150.8178	3-4 Adults	No
13 July 2023	5	15:50	61.18667, -150.9344	3 Adults	Yes
13 July 2023	6	16:47	61.20984, -150.9538	7-10 Adults	No

Notes:
[1]DD NAD83

Table A.2. Summary of Rig-based Marine Mammal Sightings During Hilcorp Year 1 Cook Inlet Activities in 2023.

Date	Observer Location on Rig (Port/Starboard)	Sighting Start Time	Sighting End Time	Species	No. of Individuals	Initial Behavior	Secondary Behavior	Change in Behavior? (yes/no)	Closest Point of Approach to Sound Source (m)	In Level B Acoustic Harassment Threshold While Under Load? (yes/no)	Project Activity During Sighting	Location (Latitude/Longitude)[1]
8 June	Starboard	21:28	21:33	Dall's porpoise	1	Traveling	N/A	Unknown	250	Yes	Mobile/Transiting	60.68817, -151.39896
9 June	Port	05:41	05:43	Harbor seal	1	Look	Sink	No	400	Yes	Mobile/Transiting	60.80684, -151.24774
9 June	Port	08:59	09:02	Harbor porpoise	1	Traveling	Swimming	No	400	Yes	Mobile/Transiting	61.01811, -150.98889
9 June	Port	09:24	09:24	Harbor seal	1	Look	Sink	No	350	Yes	Mobile/Transiting	61.04624, -150.97468

Notes:
[1]DD NAD83

Table A.3. Summary of Supplemental / Opportunistic Sightings During Hilcorp Year 1 Jack-up Rig Transport Activities in 2023

Date	Observer Location	Time	Species	No. of Individuals	Marine Mammal Location (Latitude/Longitude)[1]	Within the Aerial Survey Area? (yes/no)
1 June	Aerial	Between 04:57 and 05:08	Beluga whale	2 white adults	Near the mouth of the Susitna River	No
1 June	Aerial	Between 04:57 and 05:08	Beluga whale	5 white adults	Between the Theodore and Lewis Rivers	No
1 June	Aerial	Between 14:21 and 14:37	Beluga whale	25-35 white adults	Near the mouth of the Susitna River	No
1 June	Aerial	15:12	Unknown porpoise	1	61.21546˚ N, -150.79109˚W	No
8 June	Rig	07:05	Harbor seal	1 adult	60.68833˚N, -151.39944˚ W	No
8 June	Aerial	10:07	Beluga whale	1 white adult	61.21335˚ N, -150.51320˚W	No
8 June	Aerial	10:10	Beluga whale	1 white adult	61.21732˚N, -150.73451˚W	No
8 June	Aerial	10:11	Beluga whale	4 white adults, 1 gray juvenile	61.20814˚N, -150.82851˚W	No
8 June	Aerial	10:16	Beluga whale	4 white adults	61.13775˚N, -151.06989˚W	Yes
8 June	Aerial	11:14	Beluga whale	3-4 white adults	61.17221˚N, -150.91893˚W	Yes
8 June	Aerial	11:15	Beluga whale	1 white adult	61.18546˚N, -150.86867˚W	Yes
8 June	Aerial	14:30	Beluga whale	30 white adults	61.21695˚N, -150.63283˚W	Yes

8 June	Aerial	14:33	Beluga whale	4 white adults	61.21506˚N, -150.81549˚W	No
8 June	Aerial	14:42	Beluga whale	9 white adults	61.05307˚N, -151.15495˚W	No
8 June	Aerial	14:49	Beluga whale	1 white adult	61.13561˚N, -151.07532˚W	Yes
8 June	Aerial	14:53	Beluga whale	11-20 white adults	61.17886˚N, -150.91055˚W	Yes
8 June	Aerial	14:55	Beluga whale	3 white adults	61.16026˚N, -150.96867˚W	Yes
8 June	Aerial	14:57	Beluga whale	1 white adult	61.12801˚N, -151.05888˚W	Yes
8 June	Aerial	16:38	Beluga whale	5 white adults, 1 gray juvenile	61.16101˚N, -150.91615˚W	Yes
13 July	Aerial	10:23	Beluga whale	30 white adults	61.15385˚N, -150.9514˚W	Yes
13 July	Aerial	14:39	Beluga whale	10-15 white adults	Mouth of the Susitna River	No
13 July	Aerial	16:00	Beluga whale	4 white adults	Inside Beluga River (Not in Marine waters)	No

Notes:
[1]DD NAD83