

Seabird Data Summary

Cappahayden K-67

September 22, 2020, to October 22, 2020

Facility: Transocean Barents

Position: 47°56.35' North
046°39.56' West

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1.0 INTRODUCTION

Equinor Canada Ltd. (Equinor) contracted PAL Aerospace Ice and Environmental Services to provide environmental and seabird and mammal monitoring services supporting operations on the Cappahayden K-67 well site (Figure 1) from September 22, 2020, at 0300z to October 22, 2020, at 1155z.

During this time, the Transocean Barents (Figure 2) was staffed with PAL Aerospace's Offshore Ice and Environmental Observers/Specialists as the Marine Mammal, Sea Turtle, and Seabird Observers (MMSTSO), by request of the operator. They conducted three seabird surveys daily and visual observations for marine mammals; all following the Seabird Survey, Handling, and Observation Protocol (Equinor, 2020), which was designated prior to drilling.

The MMSTSO was responsible for systematic searches for stranded seabirds while on the Cappahayden K-67 wellsite. Information provided in this report spans the entirety of the time spent on this wellsite.

All data collected on the Transocean Barents was stored in a local database at PAL Aerospace and used to compile this report. For environmental data comparison, all times and dates are in Coordinated Universal Time (UTC).

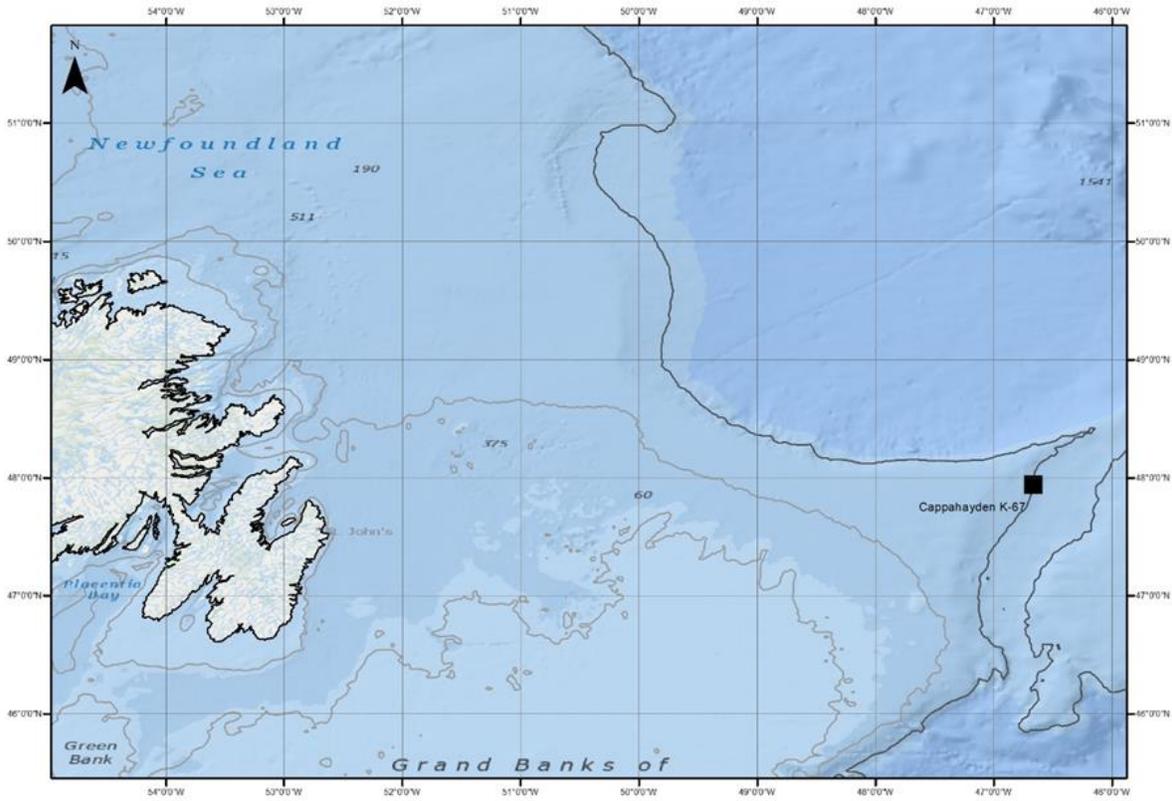


Figure 1: Cappahayden K-67 Well Site Location (47°56.35'N, 046°39.56'W)



Figure 2: Transocean Barents

2.0 SUMMARY OF SEABIRD SURVEY, HANDLING, AND OBSERVATION

Equinor conducted a seabird monitoring program on the Cappahayden K-67 well site from September 22, 2020, when the Transocean Barents arrived on location, to October 22, 2020, when the project completed for that well site. Observations on the Transocean Barents were conducted by the MMSTSO. These observations were completed as per the Eastern Canada Seabirds at Sea (ECSAS) Standardized Protocol for Pelagic Seabird Surveys from Moving and Stationary Platforms (Gjerdrum C., 2012) and the Seabird Survey, Handling, and Observation Protocol (Equinor, 2020).

2.1 OBSERVATION PROCEDURES

- Scan a 180 arc if possible, giving priority to any birds within a 300m semi-circle (Figure 3)
- The semi-circle is broken down into 5 zones
 - A: 0 50m
 - B: 50 100m
 - C: 100 200m
 - D: 200 300m
 - E: >300m

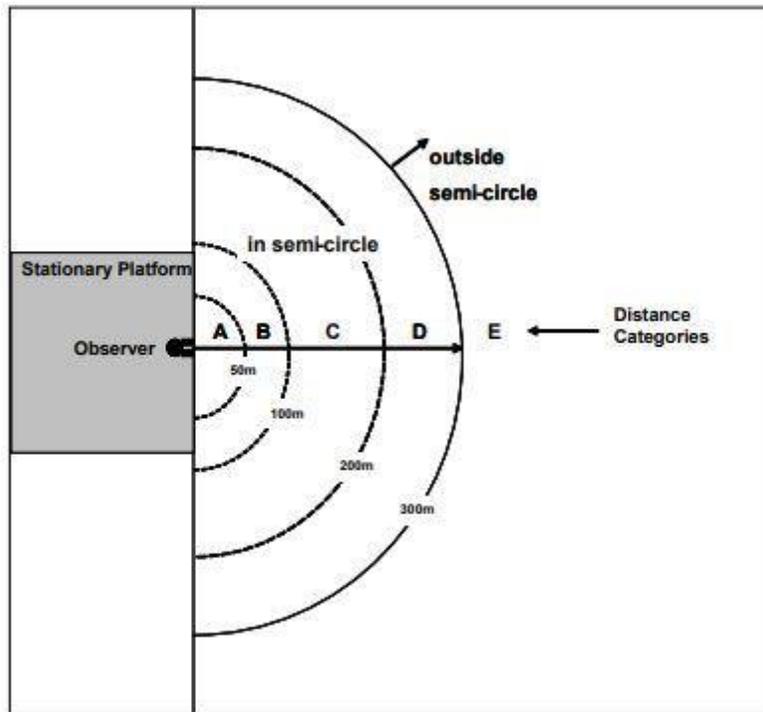


Figure 3: Seabird Observations Zones

- Visually sweep the area, once per scan, scanning from one direction to another
- Systematically record all birds on the water and in-flight
- The survey is conducted from a position outdoors whenever possible, as close to the edge of the platform as permitted
- A position near the edge will increase the detection rates of birds, especially for birds that use the waters at the base of the platform
- If surveys are being conducted from a stationary platform, such as an oil drilling rig, the MMSTSO should scan from the same location each time to increase the comparability among scans
- In poor visibility, note how far you can see and conduct the scan anyway
- When no birds are detected during a scan, it is important to record “No birds observed.”

The MMSTSO utilizes instantaneous counts of seabird occurrences and behaviour from stationary platforms at regular intervals for a total of three observations daily (from 0600 NDT to 1800 NDT). Data is collected regardless if seabirds are present or not. PAL Aerospace’s environmental monitoring software, the Ice Data Network System (IDNS), records the number, species, and activities of all seabirds observed.

The MMSTSO was responsible for searching and scanning the decks for stranded and/or deceased seabirds twice daily. All crew members were also requested to alert the MMSTSO if stranded birds were found. The Equinor SSU Coach was available to assist the MMSTSO if needed. When stranded birds are recovered and released, the MMSTSO follows the handling methods devised by Williams and Chardine (1999).

2.2 STRANDED SEABIRD SEARCH PROCEDURES

MMSTSOs conduct daily inspections of the facility to search for potentially stranded birds. This survey quantifies species numbers and status (alive or dead) and the timing of migratory bird stranding in the area. This survey consists of outlining the area searched, as well as all findings in the search. Full procedures for stranded seabird searches can be found in the Seabird Survey, Handling, and Observation Protocol (Equinor, 2020).

3.0 SUMMARY OF MARINE MAMMAL AND SEA TURTLE MONITORING

Visual observations on the Transocean Barents were conducted by the onboard MMSTSO during daylight hours. Observations were conducted primarily from the bridge. No sightings were observed throughout the project period on the Cappahayden K-67 well site.

Visual scans were made with the naked eye and with 7x50 binoculars. The detection cues that would have been used were the presence of groups of birds, unexpected splashes, blows, and black objects breaking the surface. Whenever possible, sightings would have been photographed to aid species identification.

Species are identified based upon physical characteristics and behaviours. Identification is facilitated by consulting relevant field guides and by observer experience.

If visual detections occurred, the MMSTSO would have recorded all pertinent information about the sighting within PAL Aerospace's environmental monitoring software, the IDNS.

4.0 RESULTS

4.1 SEABIRD SIGHTINGS

The MMSTSOs provided by PAL Aerospace Ice and Environmental Services conducted seabird monitoring services on the Cappahayden K-67 well site from September 22, 2020, to October 22, 2020. During this period, a total of 101 seabird observation entries recorded 44,231 individual seabirds. Six (6) observations (4.6% of all observations) resulted in no seabirds identified in viewing distance of the MMSTSO's facility. Two (2) observations (1.5% of all observations) resulted in no sightings. The most frequent individual seabird sighting was the Blacked-Legged Kittiwake (31,066 individual birds sighted, 70.2% of all birds sighted), followed by the Great Black-Backed Gull (11,419 individual birds sighted, 25.8% of all birds sighted).

Table 1 and Figure 4 provide summaries of all seabird observations recorded on the Cappahayden K-67 location from September 22, 2020, to October 22, 2020.

Table 1: Seabird Sightings for the Cappahayden K-67 Well Site

Species	Number
Black-Legged Kittiwake	31,066
Common Murre	47
Dovekie	4
Glaucous Gull	3
Great Black-Backed Gull	11,419
Great Shearwater	9
Great Skua	1
Herring Gull	21
Leach's Storm-Petrel	45
Northern Fulmar	1,596
Northern Gannet	2
Peregrine Falcon	4
Pomarine Jaeger	1
Total	44,231

Observation	Number
Total Observations	130
No Birds	6
No Sightings	2

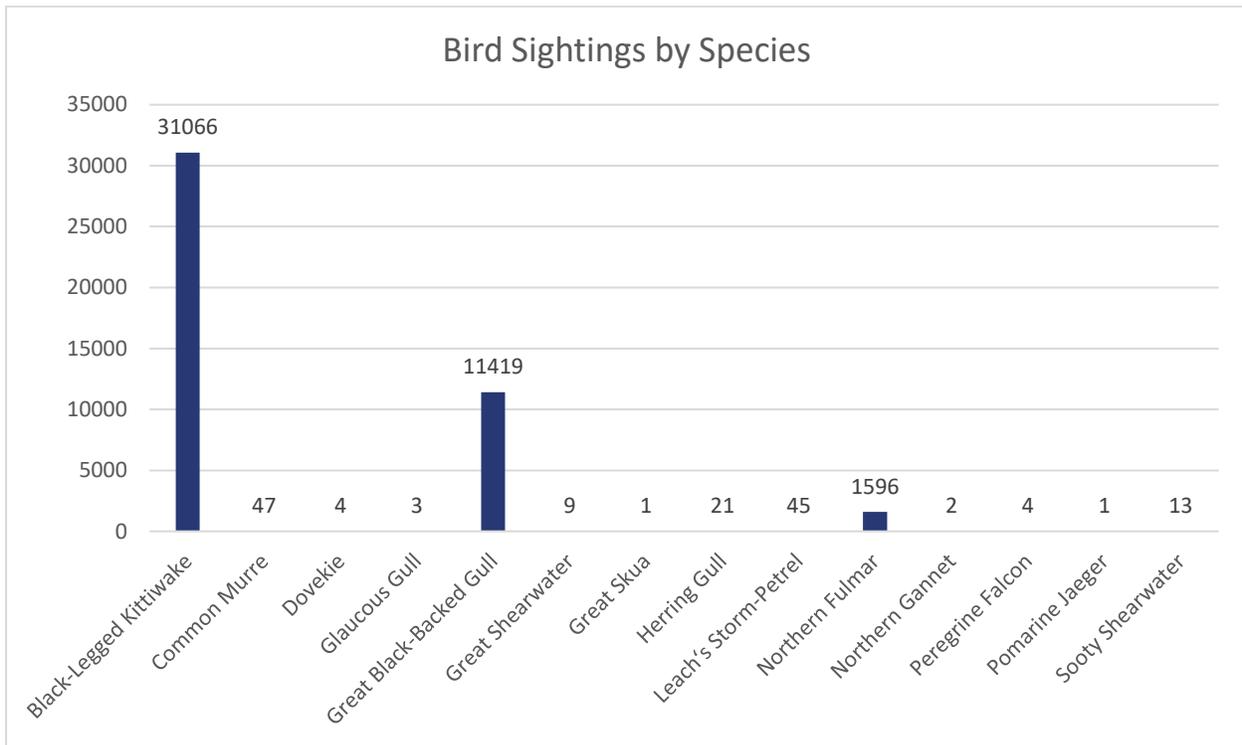


Figure 4: Seabird Sightings for the Cappahayden K-67 Well Site

4.2 SEABIRD RECOVERY

Throughout the time that the Transocean Barents was in operation on the Cappahayden K-67 well site, there were 41 separate instances where stranded seabirds were found onboard the facility. Please see Table 2: Seabird Strandings for the Cappahayden K-67 Well Site for reference.

The first instance occurred on September 22, 2020 at 1615z. A Leach’s Storm-Petrel was reported to the MMSTSO and was kept in the electrical shop. It was released after dark.

On September 23, 2020, there were three separate strandings. At 1730z, a Leach’s Storm-Petrel was found alive. At 1915z, two Leach’s Storm-Petrels were discovered. One was alive, and the other was dead. The dead bird was disposed of at sea. At 2200z, there were seven Leach’s Storm-Petrels discovered. During this time, the seven were released, along with the other two Petrels that were discovered earlier in the day.

The next day, on September 24, 2020, there were four strandings. At 0825z, one Leach’s Storm-Petrel was found and released as it was still dark. At 1035z, three more Leach’s Storm-Petrel’s were found, with two alive, and one dead. The dead Petrel was disposed of at sea, while the other birds were released after dark. At 1220z, three Leach’s Storm-Petrel’s were found alive. However, one died in the box it was being

held in. The other two were released after dark. At 1905z, a Leach's Storm-Petrel was found alive and was released.

On September 25, 2020, there were four strandings. The first stranding was at 0710z. The Leach's Storm-Petrel was found alive and released due to darkness. The second stranding at 0815z was of one Leach's Storm-Petrel and was released later after darkness. The third stranding at 1650z was of a Leach's Storm-Petrel and was released after darkness. The fourth stranding at 2206z was of a Leach's Storm-Petrel and was released since it was dark.

On September 26, 2020, a Leach's Storm-Petrel was found at 2206z, and was released during that observation due to darkness.

A Leach's Storm-Petrel was discovered and brought to the MMSTSO on September 27, 2020, at 1625z and was released after darkness.

On September 28, 2020, at 0800z, a Leach's Storm-Petrel was found and released.

On October 01, 2020, at 1815z, a Leach's Storm-Petrel was found dead and disposed of at sea.

On October 04, 2020, a Leach's Storm-Petrel was found alive and was released after darkness.

On October 06, 2020, at 0908z a Leach's Storm-Petrel was found. The seabird was found alive on a pipe deck and was released after dark. Refer to Figure 5 for an image of the Storm - Petrel.

Two days later, at 0945z, another Leach's Storm-Petrel was found. It was found in the standby hose station in water. It was released after it had dried and recuperated. Refer to Figure 6 for an image of the Storm - Petrel.

On October 09, 2020, there were two instances where seabirds were discovered. At 1900z, a Leach's Storm-Petrel was found alive on a pipe deck and released after darkness. At 2140z, a Leach's Storm-Petrel was found alive on a port walkway and released unharmed.

On October 10, 2020, there were five separate instances where seabirds were found. In the first two instances, a Leach's Storm-Petrel was discovered by the moon pool. The third instance produced a Leach's Storm-Petrel that was injured. During the fourth instance, a Mourning Dove was discovered as alive and sent ashore. The fifth instance produced a Leach's Storm-Petrel on the pipe deck. All Storm - Petrels found on October 10 were released after dark. Refer to Figure 7 - Figure 10 for images of the Storm - Petrels.

On October 11, 2020, a Leach's Storm-Petrel was found in the ROV room at 1715z and was released after dark.

On October 13, 2020, at 0920z, a Leach's Storm-Petrel was found dead by the moon pool. It was sent ashore.

On October 14, 2020, at 0920z, a Leach's Storm-Petrel was discovered on the back pipe deck. It was put into a box to recuperate and was released after dark. Refer to Figure 10 for an image of the Storm - Petrel.

There were three seabird instances on October 15, 2020. The first being a Leach's Storm-Petrel found by the forward lifeboats. The seabird was released shortly after being put in a box, as it was still dark at 0805z. During the second instance, at 1410z, a Leach's Storm-Petrel was discovered dead, and personnel were instructed by CWS to send ashore. At 1900z, two Leach's Storm-Petrels were discovered. One was found and released; the other was dead and sent ashore. Refer to Figure 11 for an image of a Storm - Petrel.

There were three seabird instances on October 16, 2020. At 0940z, 13 Leach's Storm-Petrels were found by the forward lifeboats. In the second instance, eight Leach's Storm-Petrels were found at 1310z. Finally, in the third instance, at 1855z, three Leach's Storm-Petrels were discovered. All birds found on October 16 were released after dark.

On October 17, 2020, at 1010z, two Leach's Storm-Petrels were found. One was found by the forward lifeboats alive and released after dark, while another was discovered dead. Refer to Figure 12 for an image of a Storm - Petrel.

On October 18, 2020, at 1330z, three Leach's Storm-Petrels were discovered on the pipe deck and released later that night. Refer to Figure 13 - Figure 15 for images of the Storm - Petrels.

There were two Leach's Storm-Petrels discovered on October 20, 2020, at 1005z. They were found by the moon pool and were released, as it was still dark. Refer to Figure 16 - Figure 18 for images of the Storm - Petrels. Also, at 1855z, a Leach's Storm-Petrel was found by the lifeboats. It was released after darkness.

On October 21, 2020, at 0803z, 6 Leach's Storm-Petrels were found by the moon pool, the welding shop, and by the standby lifeboats. They were released as it was still dark. Refer to Figure 19 - Figure 22 for the images of the Storm - Petrels.

Lastly, on October 22, shortly before departing the Cappahayden wellsite, nine Leach's Storm-Petrels were discovered. At 0810z, they were released as it was still dark. Refer to Figure 23 - Figure 30 for images of the Storm - Petrels.

Table 2: Seabird Strandings for the Cappahayden K-67 Well Site

Date (yyyy/mm/dd)	Location of stranding (Lat/Long, or Name)	Bird Species	Total # of Stranded Birds	Found Dead			Captured Alive						Fog (y/n)	Rain (y/n)	
				# Oiled	Fate		Oiled			Not Oiled					
					# Disposed of at Sea	# Sent Ashore	# Died in Care	# Released Alive	# Sent Ashore	# Died in Care	# Released Alive	# Sent Ashore			
2020-09-22	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	0	1	0	N	N
2020-09-23	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	0	1	0	Y	N
2020-09-23	Cappahayden K-67	Leach's Storm-Petrel	2	0	1	0	0	0	0	0	0	1	0	Y	N
2020-09-23	Cappahayden K-67	Leach's Storm-Petrel	7	0	0	0	0	0	0	0	0	7	0	Y	N
2020-09-24	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	0	1	0	Y	N
2020-09-24	Cappahayden K-67	Leach's Storm-Petrel	3	0	1	0	0	0	0	0	0	2	0	Y	N
2020-09-24	Cappahayden K-67	Leach's Storm-Petrel	3	0	0	0	0	0	0	0	0	3	0	Y	N
2020-09-24	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	0	1	0	N	N
2020-09-25	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	0	1	0	N	N
2020-09-25	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	0	1	0	N	N
2020-09-25	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	0	1	0	N	N
2020-09-25	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	0	1	0	N	N
2020-09-26	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	0	1	0	N	N
2020-09-27	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	0	1	0	N	N
2020-09-28	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	0	1	0	N	N
2020-10-01	Cappahayden K-67	Leach's Storm-Petrel	1	0	1	0	0	0	0	0	0	0	0	N	N
2020-10-04	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	0	1	0	N	N

2020-10-06	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	1	0	N	N
2020-10-08	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	1	0	N	N
2020-10-09	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	1	0	N	N
2020-10-09	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	1	0	N	N
2020-10-10	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	1	0	N	N
2020-10-10	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	1	0	N	N
2020-10-10	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	1	0	N	N
2020-10-10	Cappahayden K-67	Mourning Dove	1	0	0	1	0	0	0	0	0	0	N	N
2020-10-10	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	1	0	N	N
2020-10-11	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	1	0	N	N
2020-10-13	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	1	0	0	0	0	0	0	N	N
2020-10-14	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	1	0	N	N
2020-10-15	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	1	0	N	N
2020-10-15	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	1	0	0	0	0	0	0	N	N
2020-10-15	Cappahayden K-67	Leach's Storm-Petrel	2	0	0	1	0	0	0	1	0	0	N	N
2020-10-16	Cappahayden K-67	Leach's Storm-Petrel	13	0	0	0	0	0	0	0	13	0	Y	N
2020-10-16	Cappahayden K-67	Leach's Storm-Petrel	8	0	0	0	0	0	0	0	8	0	Y	N
2020-10-16	Cappahayden K-67	Leach's Storm-Petrel	3	0	0	0	0	0	0	0	3	0	N	N
2020-10-17	Cappahayden K-67	Leach's Storm-Petrel	2	0	0	1	0	0	0	0	1	0	N	N
2020-10-18	Cappahayden K-67	Leach's Storm-Petrel	3	0	0	0	0	0	0	0	3	0	N	N

2020-10-20	Cappahayden K-67	Leach's Storm-Petrel	2	0	0	0	0	0	0	0	2	0	N	N
2020-10-20	Cappahayden K-67	Leach's Storm-Petrel	1	0	0	0	0	0	0	0	1	0	N	N
2020-10-21	Cappahayden K-67	Leach's Storm-Petrel	6	0	0	0	0	0	0	0	6	0	N	N
2020-10-22	Cappahayden K-67	Leach's Storm-Petrel	9	0	0	0	0	0	0	0	9	0	N	Y



Figure 5: Stranded Seabird, October 06, 2020



Figure 6: Stranded Seabird, October 08, 2020



Figure 7: Stranded Seabird, October 10, 2020



Figure 8: Stranded Seabird, October 10, 2020



Figure 9: Stranded Seabird, October 10, 2020



Figure 10: Stranded Seabird, October 14, 2020



Figure 11: Stranded Seabird, October 15, 2020



Figure 12: Stranded Seabird, October 17, 2020



Figure 13: Stranded Seabird, October 18, 2020



Figure 14: Stranded Seabird, October 18, 2020



Figure 15: Stranded Seabird, October 18, 2020



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Figure 27: Stranded Seabird, October 22, 2020



Figure 28: Stranded Seabird, October 22, 2020



Figure 29: Stranded Seabird, October 22, 2020



Figure 30: Stranded Seabird, October 22, 2020

5.0 ENVIRONMENTAL EFFECTS OF THE SURVEY

The marine mammal, sea turtle, seabird observations and stranded seabird checks summarized in this report demonstrate that appropriate monitoring procedures were implemented during the project, including following the requirements in the Seabird Survey, Handling, and Observation Protocol (Equinor, 2020).

6.0 SUPPLEMENTARY DIGITAL DATA

The following data has also been provided for this report:

- The Seabird Spreadsheet: Spreadsheet outlining all data and statistical analysis completed (September 22, 2020 – October 22, 2020);
- The Seabird Daily Reports: Forms identifying numbers for seabird searches performed (October 05 - October 22);
- The Seabird Encounter Datasheet Tracker: Spreadsheets identifying numbers for seabirds encountered (September 22 - October 22); and,
- ECSAS Databases: The active databases for all observation information recorded.

7.0 WORKS CITED

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