Appendix V5-11A

Hope Bay Belt Project:
Marine Wildlife Baseline Report, 2011

TMAC RESOURCES

Hope Bay Mining Limited

HOPE BAY BELT PROJECT
Marine Wildlife Baseline Report, 2011

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Rescan™ Environmental Services Ltd.
Rescan Building, Sixth Floor - 1111 West Hastings Street
Vancouver, BC Canada V6E 2J3
Tel: (604) 689-9460 Fax: (604) 687-4277

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HOPE BAY BELT PROJECT
MARINE WILDLIFE BASELINE REPORT, 2011

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NEWMONT NORTH AMERICA

Hope Bay Mining Limited

Prepared by:

Rescan™ Engineers and Scientists

Rescan™ Environmental Services Ltd.
Vancouver, British Columbia

Executive Summary

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Executive Summary

This report provides the results of marine wildlife baseline surveys conducted in 2010 and 2011 for the Hope Bay Belt Project by Rescan Environmental Services Ltd. (Rescan), on behalf of Hope Bay Mining Ltd. (HBML). The Hope Bay Belt Property is located approximately 125 km southwest of Cambridge Bay, Nunavut, on the south shore of Melville Sound.

A caribou and seal aerial survey and a barge-based marine wildlife survey were conducted in 2010 within the marine Regional Study Area (RSA). A caribou and seal aerial survey was also conducted in 2011. The marine RSA encompasses an area of 14,378 km^2.

Aerial surveys to document the location of caribou and caribou tracks in Melville Sound, upper Bathurst Inlet, and the Coronation Gulf were flown on June 3 to 5, 2010. The survey period corresponded to the latter part of the northern migration period for Dolphin and Union caribou. A total of 18 bull caribou and 114 caribou tracks were observed. The majority of caribou tracks were oriented in a northerly direction and followed shorelines along the Kent Peninsula. Nunavut-wide, Dolphin and Union caribou exhibit fidelity to crossing areas across Dease Strait and within the Coronation Gulf and Queen Maud Gulf (Poole et al. 2010). The orientation of caribou tracks recorded in the RSA suggest that these caribou may be using a crossing route from the northern edge of the Kent Peninsula towards Byron Bay on Victoria Island (Figure 1-1). This route has been used in previous years.

The presence of marine wildlife in the RSA was assessed through aerial surveys in the spring (concurrently with the caribou ice crossing study) and through a barge-based survey from August 10 to 12, 2010. The spring survey was used to document the presence of seal species in the RSA. A total of 777 seals comprised of 87 bearded seals, 386 ringed seals, and 322 unknown seals were observed, as well as 129 open breathing holes on the sea ice. Both ringed and bearded seals were more abundant in Coronation Gulf compared to areas within Melville Sound. During the August barge survey, two ringed seals, one bearded seal, one unknown seal, three common murres, and four pacific loons were observed. In addition, two unknown loons and one unknown gull were observed. None of the species recorded during the aerial and barge surveys are of conservation concern in Nunavut.

Incidental observations of caribou and caribou trails were also recorded during a caribou aerial survey conducted on May 22, 2011, as part of the annual Wildlife Mitigation and Monitoring Program (WMMP). A total of 10 caribou were observed on the ice, including six females and four unknown. Seventeen caribou tracks were recorded on the ice in Melville Sound, primarily to the west of Roberts Bay.

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HOPE BAY BELT PROJECT
MARINE WILDLIFE BASELINE REPORT, 2011

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Glossary and Abbreviations

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Glossary and Abbreviations

Terminology used in this document is defined where it is first used. The following list will assist readers who may choose to review only portions of the document.

COSEWIC	Committee on the Status of Endangered Wildlife in Canada - A federal committee of experts that assesses and designates the level of threat to wildlife and vegetation species in Canada.
GN DOE	Government of Nunavut Department of Environment
GPS	global positioning system
HBML	Hope Bay Mining Limited
Life History Period	Periods of an animal's life that can be separated on the basis of certain characteristics, such as by animal behaviour, habitat use, or reproductive stage. For caribou, there are six general life history periods that can be separated by to habitat use and animal behaviour; winter, spring migration, calving, post-calving, summer, and fall migration (including the rutting period).
NPC	Nunavut Planning Commission
Rescan	Rescan Environmental Services Ltd.
RSA	Regional Study Area
SARA	Species at Risk Act - A Canadian federal statute which is designed to meet one of Canada's commitments under the International Convention on Biological Diversity. The goal of the Act is to protect endangered or threatened organisms and their habitats. It also manages species which are not yet threatened, but whose existence or habitat is in jeopardy.
WMMP	Wildlife Mitigation and Monitoring Program

1. Introduction

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1. Introduction

The Hope Bay Belt Property is located approximately 125 km southwest of Cambridge Bay, Nunavut, on the south shore of Melville Sound (Figure 1-1). The nearest communities are Omingmaktok (75 km to the southwest of the property), Cambridge Bay, and Kingaok (Bathurst Inlet; 160 km to the southwest of the property).

The property consists of a greenstone belt running in a north/south direction, approximately 80 km long, with three main gold deposit areas. The Doris and Madrid deposits are located in the northern portion of the belt, and the Boston deposit is located in the southern end. The northern portion of the property consists of several watershed systems that drain into Roberts Bay, and a large river (Koignuk River) that drains into Hope Bay. Watersheds in the southern portion of the belt ultimately drain into the upper Koignuk, which drains into Hope Bay.

Hope Bay Mining Limited (HBML) is proceeding with the development of the Doris North Project. Required licences and permits are in place for the development of the Doris North Gold Mine, and construction of the project commenced in 2010.

HBML plans to develop additional deposits in the belt, and planning for this Phase 2 Project development has commenced. Baseline studies to support the permitting of the Phase 2 Project were carried out in 2009, and were continued in 2010 and 2011. The environmental baseline program conducted in 2010 was intended to fill in information gaps in order to support the permitting process for the Phase 2 Project. The site layout options considered for the 2010 Phase 2 environmental baseline program are shown in Figure 1-2.

Results from the 2010 Phase 2 Project environmental baseline program are being reported in a series of reports, as follows:

- 2010 Hydrology Baseline Report
- 2010 Freshwater Baseline Report
- 2010 Freshwater Fish and Fish Habitat Baseline Report
- 2010 Marine Baseline Report
- 2010 Marine Fish and Fish Habitat Baseline Report
- 2010 Terrain and Soils Baseline Report
- 2010 Country Foods Baseline Report
- 2010 Ecosystems and Vegetation Baseline Report

In addition, numerous reports are being produced as part of the Doris North Project compliance requirements, and many of these reports cover the geographical areas of the proposed Phase 2 Project. Examples of Doris North Project compliance reports generated in 2010 that are relevant to the proposed Phase 2 Project include:

- 2010 Meteorology Compliance Report, Doris North Project
- 2010 Hydrology Compliance Report, Doris North Project

Figure 1-1

Hope Bay Belt Project Location

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PROJECT # **1009-002-17** GIS # **HB-15-038** *December 15 2011*

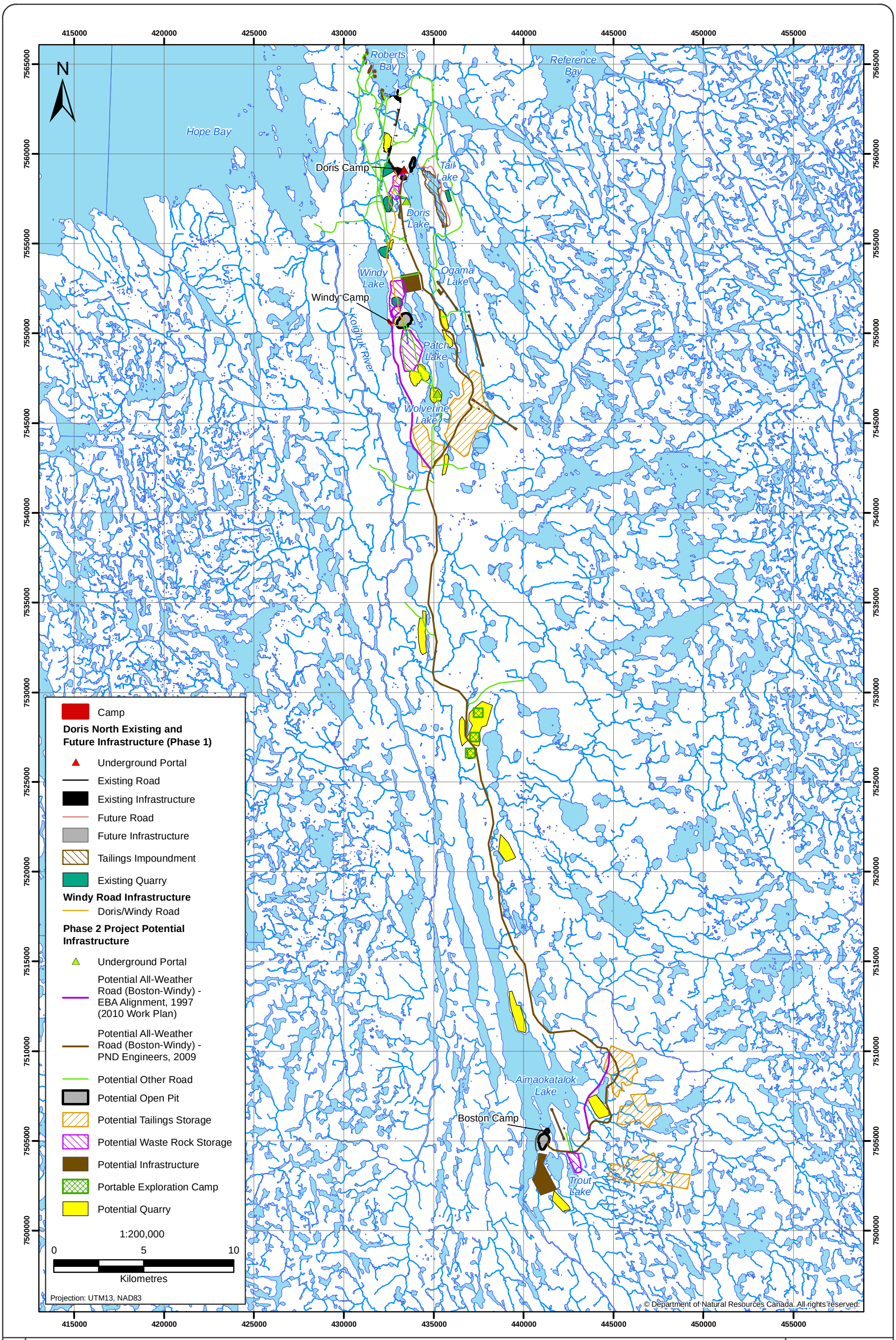

Figure 1-2

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Site Layout Options Considered for Phase 2 Baseline Program, 2010

Figure 1-2

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- 2010 Wildlife Mitigation and Monitoring Report (WMMP), Doris North Project
- 2010 Wildlife DNA Study, Doris North Project
- 2010 Air Quality Compliance Reports, Doris North Project
- 2010 Aquatic Effects Monitoring Report (AEMP), Doris North Project

Archaeology work was also conducted in 2010 and is being reported separately.

This report presents the results from regional marine wildlife surveys conducted as part of the 2010 Phase 2 Project environmental baseline program, as well as results from a May 2011 regional aerial survey.

For 2010, an aerial survey was conducted in June to document caribou ice crossings and seals. A barge survey was conducted in August 2010 to document marine mammals and seabirds. For 2011, an aerial survey was conducted in May to again document caribou crossings and seals in the marine regional area.

The general study area for the marine wildlife surveys was the marine portion of the Regional Study Area (RSA; Figure 1-3). The RSA encompasses an area of 14,378 km^2. The 2010 caribou crossing survey and marine wildlife survey were conducted within the marine environment of the RSA. The 2011 aerial survey covered a smaller area, and focused on Melville Sound.

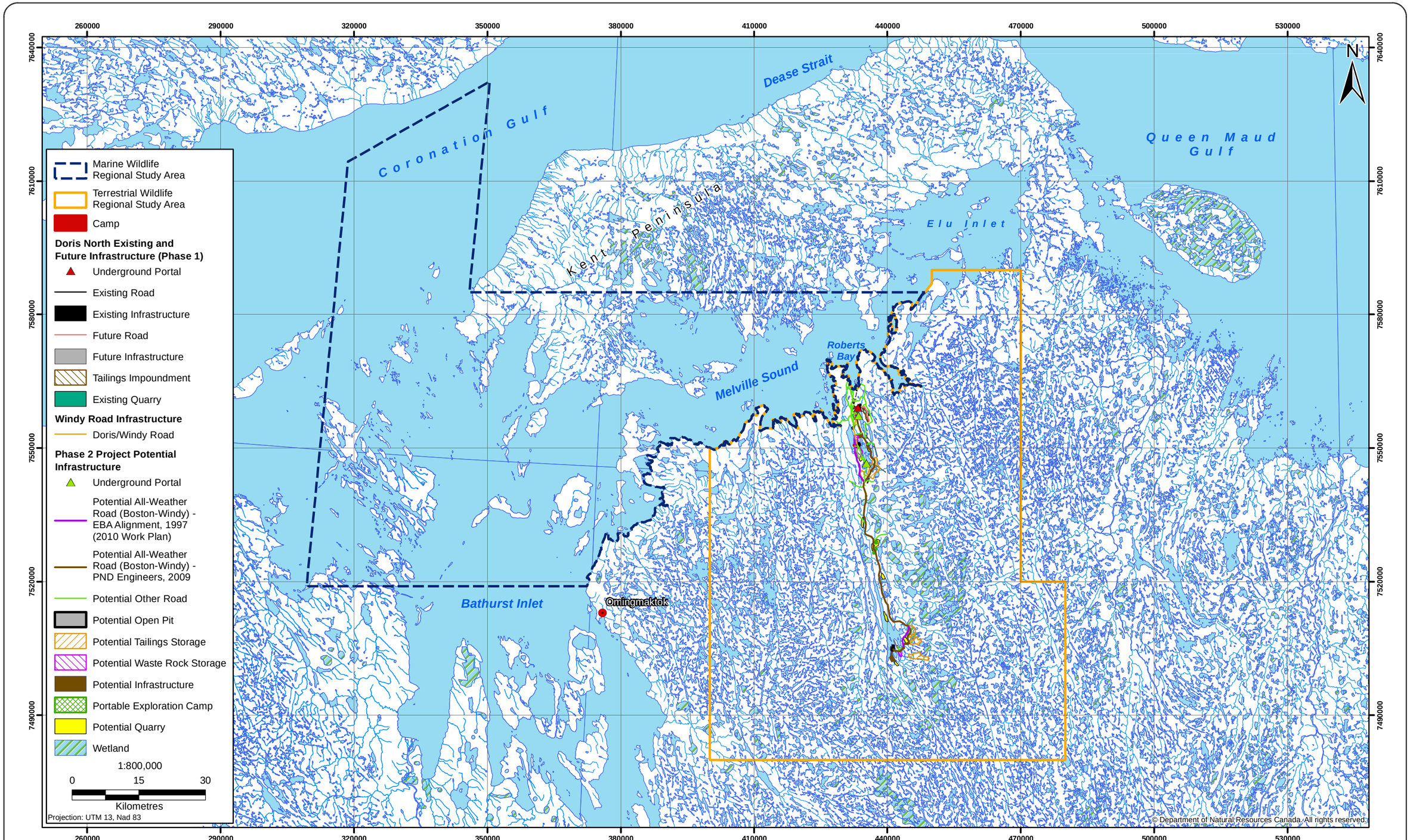

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Figure 1-3

Regional Study Area (RSA) for Marine Wildlife Baseline Studies

2. Caribou Ice Crossing

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2. Caribou Ice Crossing

2.1 INTRODUCTION

The Dolphin and Union herd winters on the Arctic mainland coast east and west of Bathurst Inlet, sometimes within the Hope Bay Project RSA. This herd migrates north at the end of April and May to Victoria Island to calve and spend the summer, returning to the mainland during the fall when the sea ice has frozen; typically in early November. In the early 1900s, the Dolphin and Union caribou herd was estimated at 100,000 animals (COSEWIC 2004). Overhunting and harsh winter conditions are reported to have caused a population crash between 1900 and 1920 to the point where caribou were not observed migrating between Victoria Island and the mainland (Gunn 2005; Poole et al. 2010). In the late 1980s and early 1990s, the Dolphin and Union herd had recovered to the point where they resumed their historic migrations between Victoria Island and the mainland (Gunn et al. 1997; Poole et al. 2010). Approximately 7,200 Dolphin and Union caribou were counted prior to migration in spring 1993 (Gunn et al. 1997). In 1997, the Dolphin and Union herd was estimated at 28,000 ± 3,350 animals (Nishi and Gunn 2004), which is approximately one third of its historic size.

Dolphin and Union caribou have recently been recognized as a genetically distinct population from the Peary caribou and barren-ground caribou (COSEWIC 2004). The Dolphin and Union herd is designated as a sub-population of Special Concern by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) due to high harvests without recent population estimates (COSEWIC 2004). Potential threats to this herd's long term viability are climate warming and shipping activity across the herd's migration route (COSEWIC 2004). Climate warming may shorten the amount of time caribou have to cross between the mainland and Victoria Island during the spring and fall migrations, since this movement is dependent on ice formation. Shipping and icebreaking make Dolphin and Union caribou "vulnerable to die-offs similar to those that have affected Peary caribou" (COSEWIC 2004). The herd is pending addition to Schedule 1 of the *Species at Risk Act* (SARA).

The objectives of the caribou ice crossing study in 2010 and 2011 were to identify the location of caribou trails in Melville Sound and upper Bathurst Inlet and to collect information on migration patterns of the caribou herd that may interact with the project.

2.2 METHODS

Aerial surveys were flown during the spring of 2010 and 2011. Surveys were conducted along pre-determined transect lines in Melville Sound and upper Bathurst Inlet within the RSA (Figure 2.2-1). Transect lines were parallel at a distance of 8 km apart. Eight transect lines were oriented in an east-west orientation in Melville Sound (Transects MS1 to MS8). Three transect lines were oriented in an approximately north-south orientation in upper Bathurst Inlet and Coronation Gulf (Transects CG1 to CG3; Figure 2.2-1).

Aerial surveys were conducted using a Bell 206LR Helicopter with a pilot, navigator, and an observer. The aircraft followed transect lines using an onboard Garmin global positioning system (GPS) at an elevation of 300 m and speed of approximately 150 km/hr. On occasion, poor weather conditions at higher altitudes were encountered and the flight level was lowered for safety reasons. All caribou and caribou tracks within 500 m on either side of the helicopter were counted during all surveys. Effort was placed on determining the orientation of caribou tracks to determine the direction of travel. All caribou or tracks that were seen off-transect (greater than 500 m from the helicopter) or during ferry flights between transect lines and to and from Doris Camp, were also recorded.

Incidental observations of caribou trails were also recorded during caribou surveys conducted on May 22, 2011 as part of the annual Wildlife Mitigation and Monitoring Program (WMMP). Over-ice surveys were conducted as part of annual caribou surveys using the same flight methodology as the 2010 ice crossing survey. The caribou study area is described in the annual WMMP.

2.3 RESULTS AND DISCUSSION

2.3.1 Caribou Movements in Marine RSA

A total of 18 caribou and 114 caribou tracks were observed during aerial surveys from June 3 to 5, 2010 (Figure 2.3-1; Appendix 1). One group of 13 bull caribou were observed off-transect along Transect CG2. Five bull caribou were incidentally observed during travel to and from Doris Camp (Figure 2.3-1). Of the 114 separate caribou tracks observed, the majority were documented along the shoreline of northern Melville Sound (Figure 2.3-1). In several areas, caribou tracks were grouped together, suggesting that larger groups of caribou (~5-10 individuals) were travelling together. Generally, caribou tracks were oriented in a northerly direction and followed shorelines of the Kent Peninsula (Figure 2.3-1).

A total of 10 caribou and 17 groups of trails were observed during the May 2011 caribou survey (Figure 2.3-2, Appendix 2). The majority of observations were recorded west of Roberts Bay and toward the western extent of the survey area, using a group of small islands to cross to the Kent Peninsula. The annual movement patterns of Dolphin and Union caribou vary between sexes. Cows generally start their northward migration in May; the median migration initiation date of female caribou based on a decade of satellite collar data was May 24 (Poole et al. 2010). Females generally take less than five days to complete the northward trip (Poole et al. 2010). Males and juveniles tend to be the last members of the herd to travel to Victoria Island, crossing well into June (Gunn et al. 1997). This pattern agrees with the results of the ice crossing survey, where only male caribou were observed. It is likely that at the time of the survey, most female caribou had crossed and were on their calving grounds on Victoria Island.

2.3.2 Nunavut-wide Movements

Dolphin and Union caribou exhibit fidelity to crossing areas across Dease Strait and within the Coronation Gulf and Queen Maud Gulf (Figure 1-1). Based on 20 years of satellite collar data, groups of female caribou began ice crossing from the same general area on the Arctic mainland for 5 or 6 years consecutively (Poole et al. 2010). Several areas east and west of Bathurst Inlet appear to be used consistently across years. West of Bathurst Inlet, many female caribou started their northward migration from around Grays Bay and proceeded northwards towards the Richardson Islands (Poole et al. 2010). East of Bathurst Inlet, several females consistently started their northward migration from the edge of the Kent Peninsula and crossed eastward towards Cape Colborne just south of Cambridge Bay as well as roughly northward towards Byron Bay (Poole et al. 2010). The annual fidelity may be an artefact of the shortest possible “over ice” crossing distance, for example, island chains shorten the ice crossing distance west of Bathurst Inlet (e.g., Richardson Islands). The results of the ice crossing survey agree with historical and current movement patterns of Dolphin and Union caribou. The majority of caribou tracks documented during the ice crossing surveys were oriented in a north or north-westerly direction, suggestive of caribou that pass from the northern edge of the Kent Peninsula towards Byron Bay on Victoria Island.

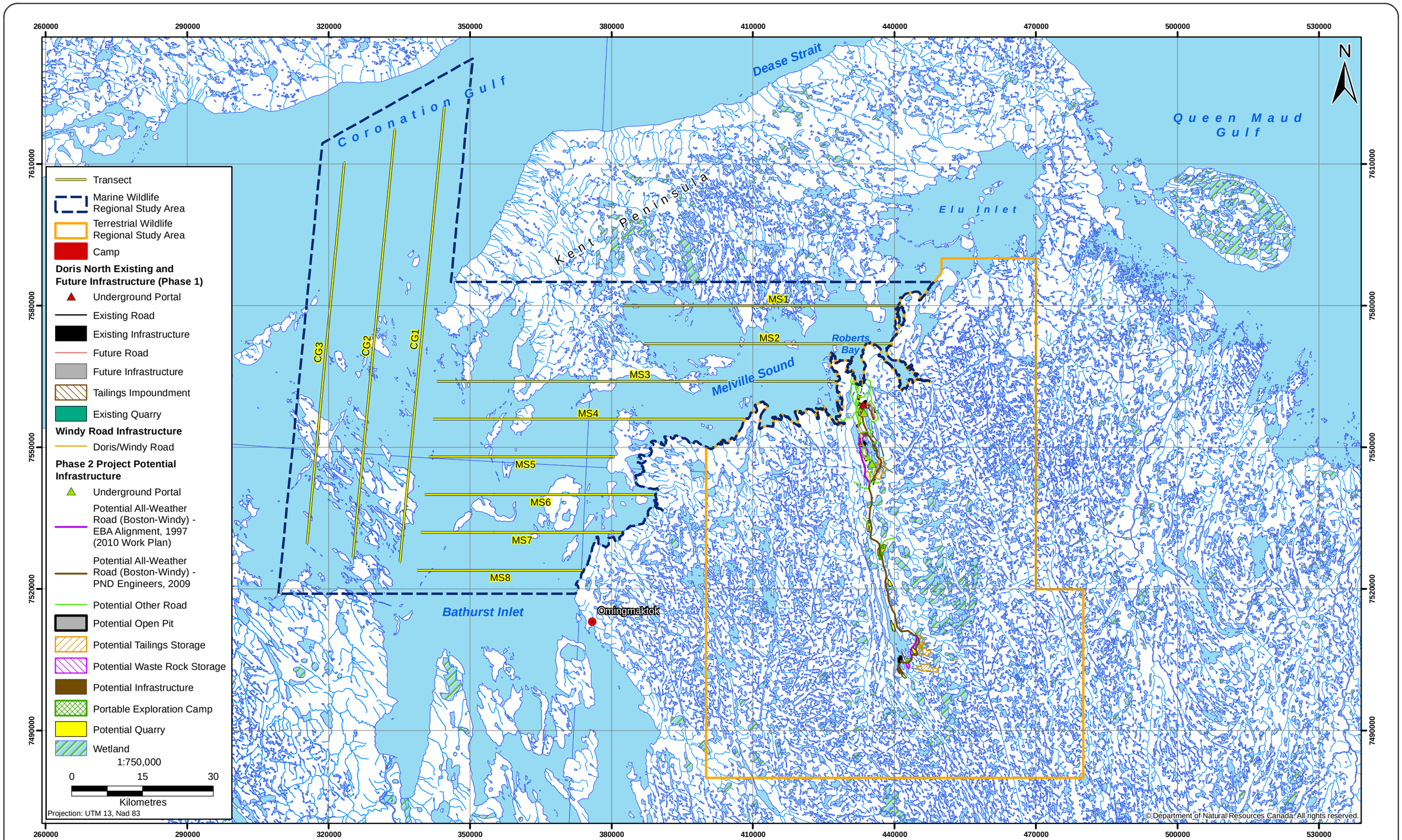

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Figure 2.2-1

Aerial Transect Lines for Caribou and Seals, 2010

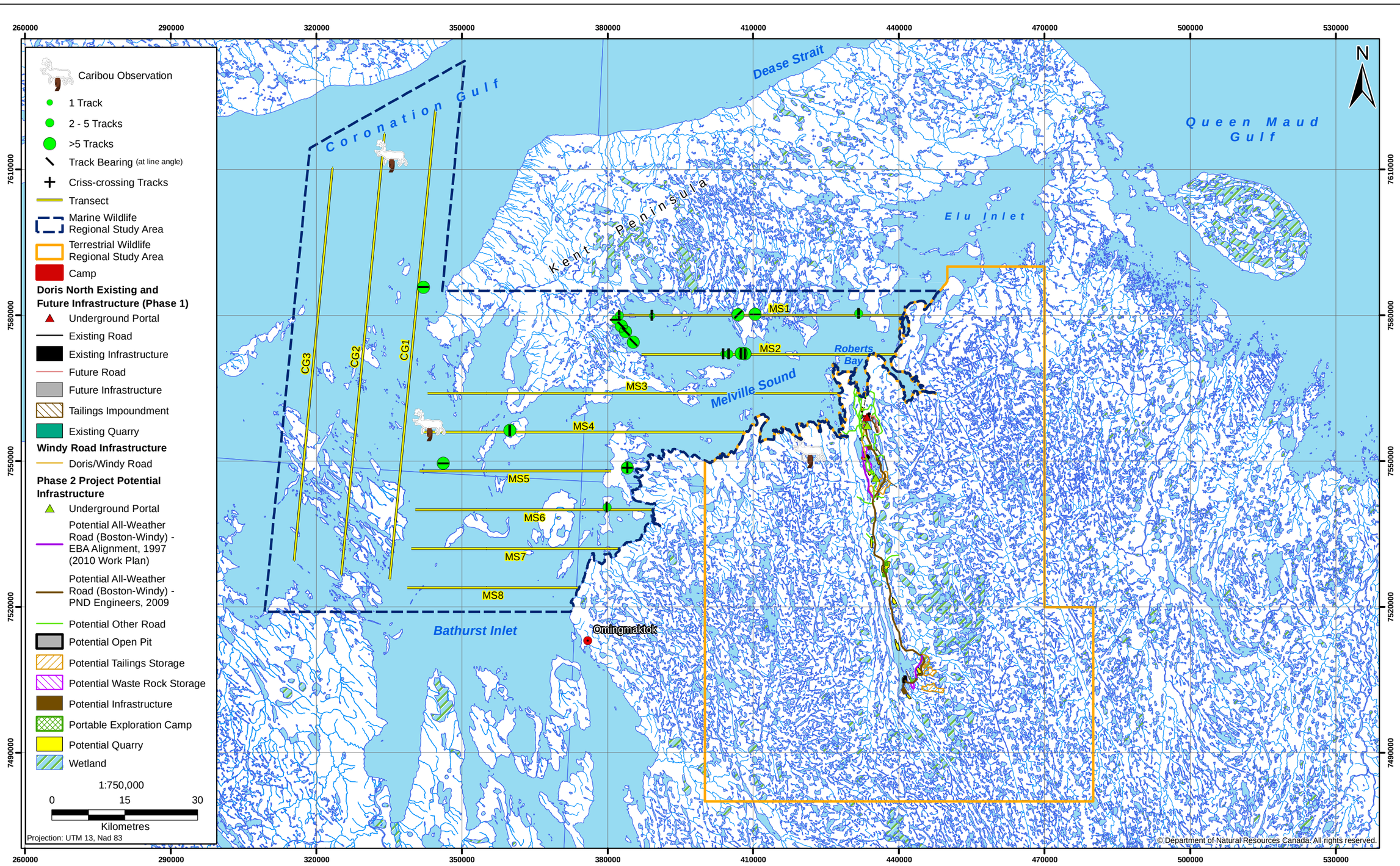

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Figure 2.3-1

Observations of Caribou and Tracks Recorded during Aerial Surveys, June 2010

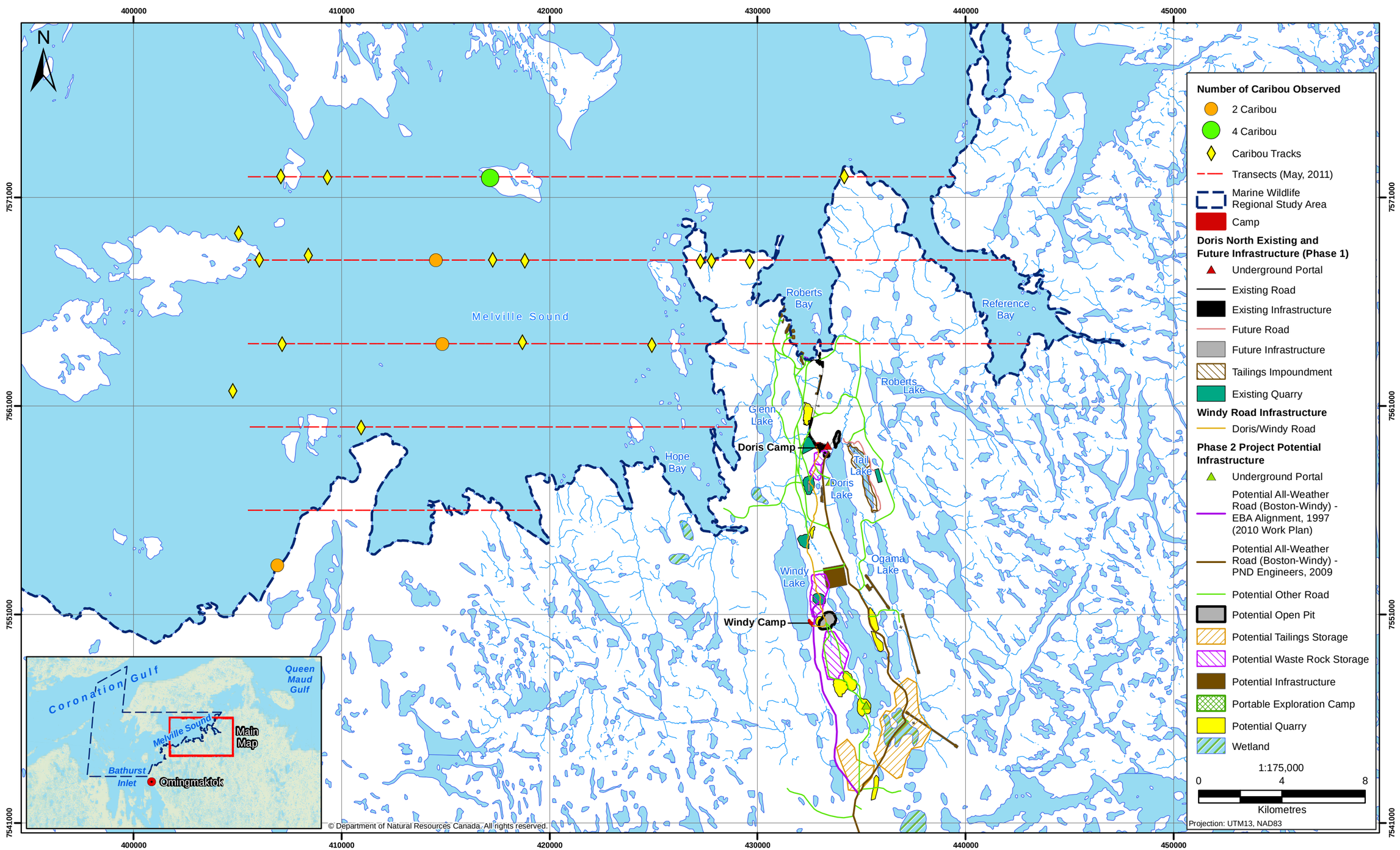

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Figure 2.3-2

Observations of Caribou and Tracks Recorded during Aerial Surveys, May 2011

3. Marine Wildlife

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3. Marine Wildlife

3.1 INTRODUCTION

The Arctic marine environment is home to numerous species of marine mammals and seabirds. Four species of marine mammals, the beluga whale (*Delphinapterus leucas*), ringed seal (*Pusa hispida*), bearded seal (*Erignathus barbatus*) and narwhal (*Monodon monoceros*), are potentially present in marine environments surrounding the Hope Bay Project. Twenty species of seabirds are also potentially present (Table 3.1-1).

Table 3.1-1. Seabirds Potentially Present in Marine Areas Surrounding Hope Bay

Common Name	Scientific Name	Common Name	Scientific Name
Red-throated Loon	*Gavia stellata*	Long-tailed Duck	*Clangula hyemalis*
Pacific Loon	*Gavia pacifica*	Red-breasted Merganser	*Mergus serrator*
Yellow-billed Loon	*Gavia adamsii*	Herring Gull	*Larus argentatus*
Canada Goose	*Branta canadensis*	Glaucous Gull	*Larus hyperboreus*
Brant	*Branta bernicla*	Sabine's Gull	*Xema sabini*
King Eider	*Somateria spectabilis*	Thayer's Gull	*Larus thayeri*
Common Eider	*Somateria mollissima*	Arctic Tern	*Sterna paradisaea*
Surf Scoter	*Melanitta perspicillata*	Thick-billed Murre	*Uria lomvia*
White-winged Scoter	*Melanitta fusca*	Common Murre	*Uria aalge*
Black Scoter	*Melanitta nigra*	Ivory Gull	*Pagophila eburnean*

The marine environment around Hope Bay would be used differentially by marine mammals and seabirds. Beluga whale are infrequent summer visitors to Bathurst Inlet based on historical evidence (Stewart and Burton 1994; Priest and Usher 2004; NPC 2008). Both seal species have a holarctic distribution and frequent the Bathurst Inlet and Coronation Gulf area throughout the year. Ringed seals are the more abundant of the two species (Priest and Usher 2004). The highest density areas for ringed and bearded seals in Nunavut occur far away from the Hope Bay Project in Lancaster Sound (1,122 km), Barrow Strait (875 km), and Peel Sound (442 km) (NPC 2008). Narwhal are observed infrequently in western Queen Maude Gulf as far east as Cambridge Bay (NPC 2008). However, a group of narwhals was observed for the first time in memory in Cambridge Bay during 2011 when summer ice conditions were uncharacteristically open (Alex Buchan, pers. comm. 2011). To date, they have not been observed in Melville Sound.

Seabirds use marine environments for foraging and/or staging and thus are highly dependent on the presence of open water. Several species, such as geese and loons, breed in terrestrial habitats on the Arctic mainland and often move to shoreline marine habitats during the fall to stage for their southward migration. Other species, such as eider ducks, gulls, and murres, breed on rocky islands along shorelines and forage for young in the marine environment throughout the breeding season.

The objective of the marine mammal and seabird surveys was to document the presence and relative abundance of marine wildlife species within the marine environment of the RSA and to determine areas of particular and/or seasonal importance.

3.2 METHODS

Two survey methods were implemented for the documentation of marine wildlife in the RSA. An aerial survey was flown in the early spring of 2010 to document the presence and distribution of seals along the pack ice in the RSA – the same survey described in the caribou section. A ship-based survey was also conducted in late summer of 2010 to document the presence of larger marine mammals, such as belugas, that may frequent the area in the summer as well as to document the distribution of seabirds.

3.2.1 Spring Seal Aerial Survey

The spring seal survey was conducted concurrently with the Dolphin and Union caribou ice crossing survey (refer to Section 2.2). During the aerial surveys on June 3, 4, and 5, 2010, seal and breathing hole observations within 500 m of the helicopter were recorded. In addition, incidental observations of seals or breathing holes (i.e., observations greater than 500 m from the helicopter or during ferry flights to and from Doris Camp) were also recorded.

3.2.2 Summer Marine Mammal and Seabird Barge Survey

A barge survey was conducted aboard the "Sea Commander" vessel from August 10 to 12, 2010. During the survey, one observer scanned for wildlife from either the port or starboard side of the vessel; the observer selected the side that had the least wind and glare to minimize error in species identification. The observer scanned from the bow of the vessel to a bearing of 270° (port side) or 90° (starboard side) from the bow. Survey speed varied from 4 to 7 knots (7 to 13 km per hour). For each sighting of marine wildlife, the following information was recorded: time, GPS location, approximate distance from vessel, bearing to sighting, group size, species, level of certainty of species identification, and activity (e.g., flying, feeding, resting). During the surveys, weather conditions such as precipitation, visibility, and sea state were recorded. The survey involved the vessel travelling from the Doris North Jetty in Roberts Bay to Cambridge Bay and back.

3.3 RESULTS AND DISCUSSION

3.3.1 Spring Seal Aerial Survey

A total of 777 seals were observed, including 87 bearded seals, 386 ringed seals, and 322 unknown seals during aerial surveys on June 3 to 5, 2010 (Figure 3.3-1; Table 3.3-1; Appendix 1). In addition, there were 129 observations of open breathing holes on the sea ice (Figure 3.3-1). Of the seals that were observed, a total of 48 bearded, 210 ringed, and 41 unknown seals were observed on transect (Figure 3.3-1; Table 3.3-1). Of the breathing holes that were observed, 79 were observed on transect (Figure 3.3-1; Table 3.3-1). The remaining observations were recorded incidentally (Table 3.3-1).

Seals and breathing holes were more frequently observed in upper Bathurst Inlet and in the Coronation Gulf in comparison to areas within Melville Sound (Figure 3.3-1). The highest number of bearded seals per km was recorded on Transect CG3 in the Coronation Gulf (Figure 3.3-1, Table 3.3-1). The highest number of ringed seals per km was also recorded in the Coronation Gulf along Transect CG1 (Table 3.3-1).

The relatively large number of unknown seals recorded during the spring seal survey results from seals frequently diving before positive species identification could be made. In addition, many seals were too far from the helicopter to enable positive species identification.

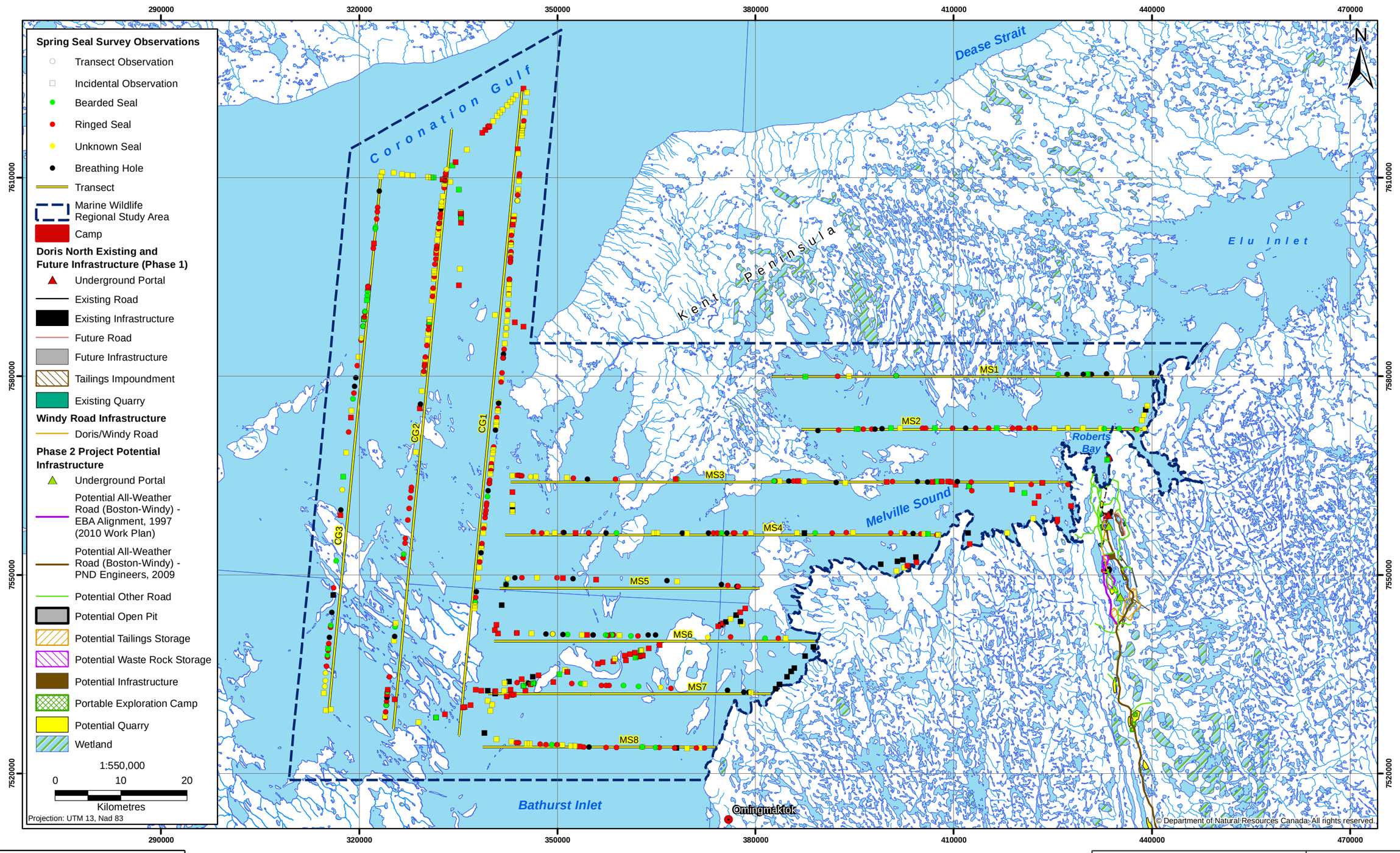

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Figure 3.3-1

Marine Wildlife Observations recorded during the Spring Seal Aerial Survey, June 2010

Table 3.3-1. Results of the Spring Seal Aerial Survey, 2010

Survey Area	Transect	Length of Transect (km)	Species									Total Seal Observations		Breathing Hole	
			Bearded Seal			Ringed Seal			Unknown Seal						
			On[1]	# / km On	Inc.[1]	On[1]	# / km On	Inc.[1]	On[1]	# / km On	Inc.[1]	On[1]	Inc.[1]	On[1]	Inc.[1]
Melville Sound	MS1	58.5	2	0.03	2	4	0.07	0	0	0.00	2	6	4	7	0
	MS2	52.0	4	0.08	4	16	0.31	0	1	0.02	8	21	12	7	0
	MS3	85.1	3	0.04	3	18	0.21	9	1	0.01	8	22	20	6	0
	MS4	64.6	4	0.06	2	19	0.29	1	1	0.02	10	24	13	11	1
	MS5	38.0	0	0.00	0	4	0.11	4	1	0.03	2	5	6	7	0
	MS6	48.5	7	0.14	0	8	0.16	6	4	0.08	4	19	10	7	1
	MS7	41.6	5	0.12	0	11	0.26	0	2	0.05	8	18	8	6	0
	MS8	35.0	3	0.09	0	13	0.37	1	0	0.00	14	16	15	3	1
Coronation Gulf	CG1	98.0	2	0.02	0	57	0.58	4	5	0.05	65	64	69	12	1
	CG2	91.0	4	0.04	1	40	0.44	5	21	0.23	41	65	47	6	0
	CG3	81.0	14	0.17	5	20	0.25	6	5	0.06	7	39	18	7	1
Transit to/from Doris Camp	-		0		22	0		122	0		112	0	256	0	45
Survey Total			48		39	210		158	41		281	299	478	79	50
Grand Total Observations			**87**			**386**			**322**			**777**		**129**	

[1] *On = Observed on transect, Inc. = incidental observation (more than 500 m from the helicopter or during ferry flights)*

3.3.2 Summer Marine Mammal and Seabird Barge Survey

Few marine wildlife species were recorded during the barge surveys from August 10 to 12, 2010 (Figure 3.3-2; Appendix 3). A total of two ringed seals, one bearded seal, and one unknown seal were observed (Figure 3.3-2). Two seabird species were recorded, including three common murres and four pacific loons (Figure 3.3-2). In addition, two unknown loons and one unknown gull were observed. These unknown birds could belong to the several gull and loon species known to occur in the area (Table 3.1-1). Neither of the identified species is of conservation concern in Nunavut.

One ringed seal was recorded at the entrance of Roberts Bay while the other was recorded midway through Melville Sound (Figure 3.3-2). The bearded seal and the unknown seal were both observed at the entrance of Melville Sound (Figure 3.3-2). The common murres were observed near the narrow entrance into Melville Sound (Figure 3.3-2). Three of the pacific loons were observed in the same area as the common murres. The fourth pacific loon was observed in upper Bathurst Inlet, along with the unknown loons and gull (Figure 3.3-2).

3.3.3 Nunavut-wide Species Distribution and Ecology

3.3.3.1 Marine Mammals

Two of the four possible marine mammal species, ringed seal and bearded seal, were detected during the aerial and barge surveys conducted in 2010. Ringed seals are an abundant seal species, distributed widely across the Arctic (Hammill 2009). Bearded seals have a much lower population density in the Canadian Arctic and a much patchier distribution than do ringed seals (Kovacs 2009). Ringed seals are the only seal present in the Arctic regions that are able to maintain open breathing holes in landfast sea ice throughout the winter, constantly abrading the edges of holes with their teeth to keep them open (Hammill 2009; Kovacs et al. 2010). This ability allows the ringed seals to have a much wider distribution than bearded seals, which are generally associated with drifting pack ice and rely on open waters leads, such as polynyas, throughout the winter (Kovacs et al. 2010).

Ringed and bearded seals also feed on different food items that correspond to their varying distributions. Ringed seals primarily feed on ice-associated organisms, such as Arctic cod, polar cod, and large zooplankton (Wathne, Haug, and Lydersen 2000). Bearded seals rely on benthic organisms and are thus more often found within shallow waters with drifting pack ice (Kovacs 2009).

3.3.3.2 Seabirds

During the barge survey, relatively few of the 19 seabird species that could possibly occur in the area were observed (Table 3.1-1). This result may suggest that the route traversed by the barge is not an important feeding or staging area for seabirds. Small islands within Parry Bay and Melville Sound (Figure 1-1) appear to be important areas for nesting common eiders and for supporting colonies of other seabirds such as glaucous gulls (Hoover, Dickson, and Dufour 2010). However, the marine environment within the RSA on a whole does not represent a key habitat for seabirds (Mallory and Fontaine 2004). Areas far away from the Hope Bay Belt, such as Northern Baffin Island and Devon Island, and their associated marine areas (e.g., Lancaster Sound) are identified as important nesting and foraging areas for a variety of seabirds including murres, gulls, and eiders (Mallory and Fontaine 2004).

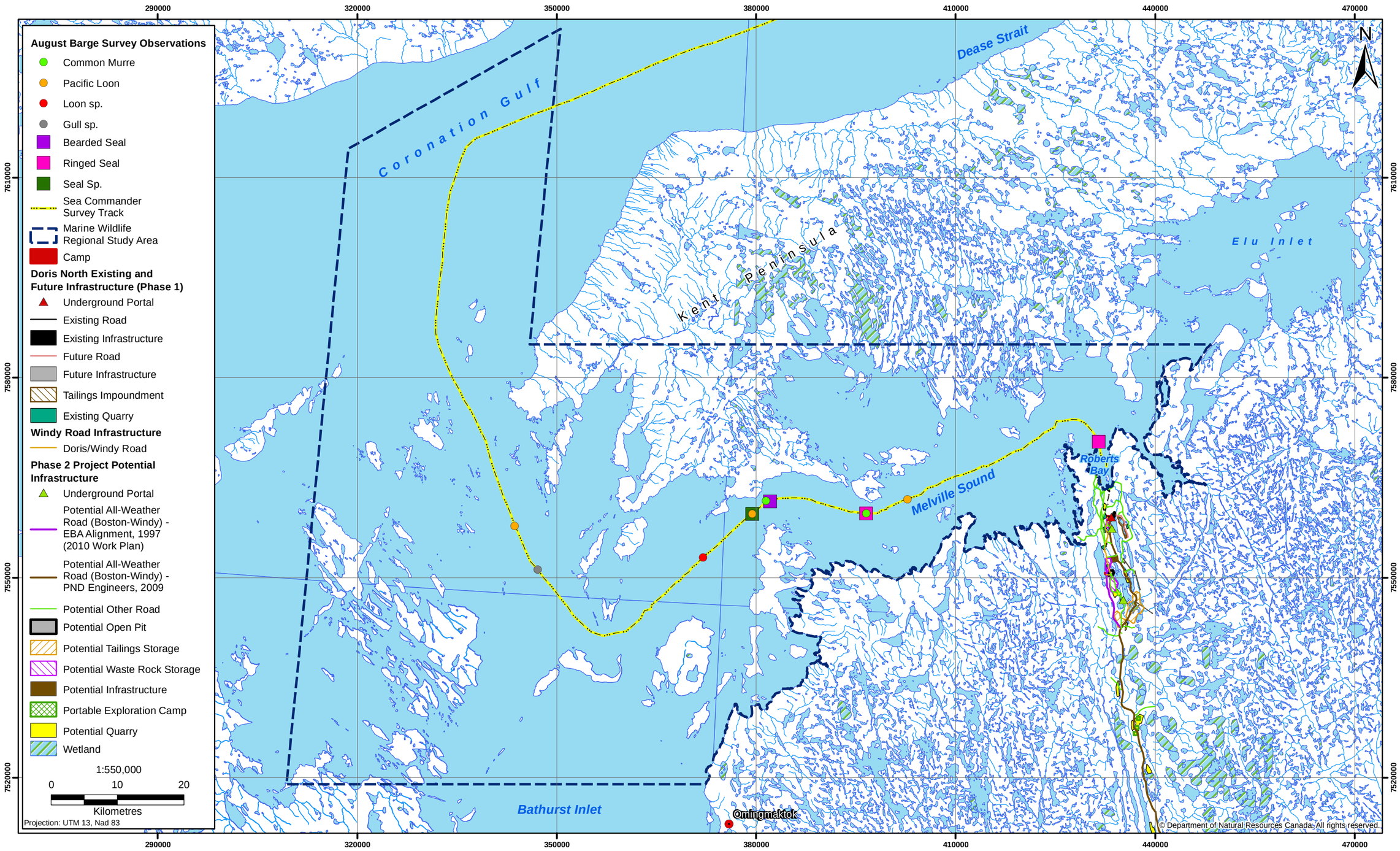

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Figure 3.3-2

Marine Wildlife Observations Recorded during the Barge Survey, August 2010

References

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Definitions of the acronyms and abbreviations used in this reference list can be found in the Glossary and Abbreviations section.

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Appendix 1

Caribou Ice Crossing and Spring Seal Aerial Survey Data, June 2010

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Appendix 1. Caribou Ice Crossing and Spring Seal Aerial Survey Data, June 2010

Date	Transect	Easting	Northing	On/Off Transect	Direction	Species	Total # Individuals	Sign	Total # Sign	Comments
03-Jun	Transit	422017	7558502	off	R	Unidentified Seal	1			
03-Jun	Transit	404367	7551902	off	R	Ring Seal	1			
03-Jun	Transit	402493	7551094	off	R	Unidentified Seal	1			
03-Jun	Transit	401298	7550642	off	R	Unidentified Seal	2			
03-Jun	Transit	377977	7542561	off	R	Unidentified Seal	1			
03-Jun	Transit	610153	7535472	off	R	Ring Seal	1			
03-Jun	Transit	603032	7533414	off	L	Unidentified Seal	4			
03-Jun	Transit	599117	7532247	off	R	Ring Seal	1			
03-Jun	Transit	598219	7531954	off	L	Seal Breathing Hole	1			
03-Jun	Transit	596603	7531427	off	L	Ring Seal	1			
03-Jun	Transit	594742	7530895	off	L	Seal Breathing Hole	1			
03-Jun	Transit	577749	7526529	off	L	Ring Seal	3			
03-Jun	Transit	568255	7524051	off	R	Unidentified Seal	3			
03-Jun	Transit	567545	7523845	off	L	Unidentified Seal	2			
03-Jun	Seal 4	566987	7526416	off	L	Unidentified Seal	1			
03-Jun	Seal 4	566994	7527477	off	L	Unidentified Seal	1			
03-Jun	Seal 4	566999	7528328	on	L	Unidentified Seal	1			
03-Jun	Seal 4	566949	7529481	on	L	Unidentified Seal	1			
03-Jun	Seal 4	566979	7530522	on	R	Ring Seal	1			
03-Jun	Seal 4	566982	7531869	on	L	Ring Seal	1			
03-Jun	Seal 4	566982	7532194	on	R	Bearded Seal	1			
03-Jun	Seal 4	566985	7532912	on	R	Ring Seal	1			
03-Jun	Seal 4	566985	7533171	off	R	Bearded Seal	1			
03-Jun	Seal 4	566992	7533987	on	L	Ring Seal	1			
03-Jun	Seal 4	567007	7534860	on	R	Seal Breathing Hole	1			
03-Jun	Seal 4	567047	7536412	on	L	Ring Seal	1			
03-Jun	Seal 4	567050	7536646	on	R	Bearded Seal	2			
03-Jun	Seal 4	567041	7538657	on	L	Seal Breathing Hole	2			
03-Jun	Seal 4	567027	7541288	off	L	Seal Breathing Hole	1			
03-Jun	Seal 4	566954	7542352	on	L	Ring Seal	2			
03-Jun	Seal 4	566927	7546455	on	R	Bearded Seal	1			
03-Jun	Seal 4	566897	7553373	off	R	Ring Seal	1			
03-Jun	Seal 4	566877	7554169	on	R	Seal Breathing Hole	1			
03-Jun	Seal 4	566822	7557305	on	L	Unidentified Seal	1			
03-Jun	Seal 4	566772	7559252	off	R	Bearded Seal	1			
03-Jun	Seal 4	566891	7562871	off	R	Unidentified Seal	2			
03-Jun	Seal 4	566966	7566017	on	R	Ring Seal	1			
03-Jun	Seal 4	567052	7568255	off	R	Ring Seal	1			
03-Jun	Seal 4	567064	7569197	off	L	Unidentified Seal	1			
03-Jun	Seal 4	567129	7571043	on	R	Bearded Seal	1			
03-Jun	Seal 4	567146	7571920	on	L	Ring Seal	1			
03-Jun	Seal 4	567156	7573002	on	L	Seal Breathing Hole	1			
03-Jun	Seal 4	567206	7574295	on	L	Seal Breathing Hole	1			
03-Jun	Seal 4	567277	7576138	on	L	Ring Seal	1			
03-Jun	Seal 4	567321	7577491	off	L	Unidentified Seal	1			

Appendix 1. Caribou Ice Crossing and Spring Seal Aerial Survey Data, June 2010

Date	Transect	Easting	Northing	On/Off Transect	Direction	Species	Total # Individuals	Sign	Total # Sign	Comments
03-Jun	Seal 4	567445	7580079	on	L	Ring Seal	1			
03-Jun	Seal 4	567457	7580299	on	L	Unidentified Seal	1			
03-Jun	Seal 4	567537	7582158	on	R	Ring Seal	1			
03-Jun	Seal 4	567537	7582158	on	R	Bearded Seal	2			
03-Jun	Seal 4	567589	7583159	off	R	Ring Seal	2			
03-Jun	Seal 4	567589	7583159	off	R	Bearded Seal	1			
03-Jun	Seal 4	567593	7583257	off	R	Bearded Seal	1			
03-Jun	Seal 4	567607	7583589	on	R	Ring Seal	1			
03-Jun	Seal 4	567639	7584280	on	L	Ring Seal	1			
03-Jun	Seal 4	567646	7584425	on	R	Bearded Seal	1			
03-Jun	Seal 4	567740	7586109	off	R	Bearded Seal	1			
03-Jun	Seal 4	567735	7586813	on	R	Bearded Seal	1			
03-Jun	Seal 4	567727	7587477	on	R	Bearded Seal	1			
03-Jun	Seal 4	567726	7588018	off	R	Ring Seal	1			
03-Jun	Seal 4	567730	7588271	on	L	Ring Seal	2			
03-Jun	Seal 4	567967	7593998	on	L	Ring Seal	1			
03-Jun	Seal 4	567976	7594766	off	R	Ring Seal	1			
03-Jun	Seal 4	567963	7596976	on	R	Bearded Seal	3			
03-Jun	Seal 4	567970	7597168	on	R	Bearded Seal	1			
03-Jun	Seal 4	568030	7598480	on	L	Ring Seal	1			
03-Jun	Seal 4	568005	7599549	on	R	Ring Seal	1			
03-Jun	Seal 4	568017	7600204	on	L	Ring Seal	1			
03-Jun	Seal 4	567995	7602699	on	L	Seal Breathing Hole	1			
03-Jun	Seal 4	568019	7604900	off	L	Unidentified Seal	1			
03-Jun	Seal 4	568169	7605559	off	L	Unidentified Seal	1			
03-Jun	TRANSIT	569924	7605681	off	L	Unidentified Seal	1			
03-Jun	TRANSIT	571200	7605553	off	L	Unidentified Seal	1			
03-Jun	TRANSIT	572009	7605539	off	L	Unidentified Seal	1			
03-Jun	TRANSIT	572839	7605493	off	R	Unidentified Seal	2			
03-Jun	TRANSIT	575149	7605507	off	L	Unidentified Seal	1			
03-Jun	TRANSIT	575610	7605515	off	L	Unidentified Seal	1			
03-Jun	TRANSIT	576000	7605492	off	R	Bearded Seal	2			
03-Jun	TRANSIT	577358	7605367	off	R	Ring Seal	1			
03-Jun	TRANSIT	577467	7605356	off	L	Ring Seal	1			
03-Jun	TRANSIT	577882	7605301	off	R	Unidentified Seal	3			
03-Jun	TRANSIT	578555	7605160	off	R	Unidentified Seal	3			
03-Jun	TRANSIT	579977	7604138	off	R	Bearded Seal	4			
03-Jun	Seal 3	580619	7600603	off	R	Unidentified Seal	16			
03-Jun	Seal 3	580619	7600603	on	R	Unidentified Seal	2			
03-Jun	Seal 3	580635	7600505	on	L	Ring Seal	1			
03-Jun	Seal 3	580655	7600351	on	L	Ring Seal	1			
03-Jun	Seal 3	580694	7600009	off	R	Ring Seal	1			
03-Jun	Seal 3	580721	7599716	on	R	Bearded Seal	2			
03-Jun	Seal 3	580767	7599107	off	R	Ring Seal	1			
03-Jun	Seal 3	581301	7592162	off	R	Unidentified Seal	1			

Appendix 1. Caribou Ice Crossing and Spring Seal Aerial Survey Data, June 2010

Date	Transect	Easting	Northing	On/Off Transect	Direction	Species	Total # Individuals	Sign	Total # Sign	Comments
03-Jun	Seal 3	581394	7589695	on	L	Ring Seal	1			
03-Jun	TRANSIT	587292	7585753	off	L	Unidentified Seal	1			
03-Jun	TRANSIT	590352	7584990	off	L	Ring Seal	2			
03-Jun	TRANSIT	591701	7584465	off	L	Ring Seal	1			
03-Jun	TRANSIT	410285	7563622	off	L	Ring Seal	1			
03-Jun	TRANSIT	422255	7560886	off	L	Ring Seal	3			
03-Jun	TRANSIT	437876	7571866	off	L	Unidentified Seal	1			
03-Jun	TRANSIT	438533	7573382	off	L	Unidentified Seal	1			
03-Jun	TRANSIT	438805	7574140	off	L	Unidentified Seal	1			
03-Jun	TRANSIT	439080	7574899	off	L	Seal Breathing Hole	1			
03-Jun	TRANSIT	439337	7575571	off	L	Unidentified Seal	1			
03-Jun	GULFBE	439964	7580537	on	R	Seal Breathing Hole	1			
03-Jun	GULFBE	433126	7580422	on	L	Seal Breathing Hole	1			
03-Jun	GULFBE	431667	7580380			Caribou		Tracks	4	N-S
03-Jun	GULFBE	430867	7580372	on	R	Seal Breathing Hole	1			
03-Jun	GULFBE	430268	7580368	off	R	Bearded Seal	1			
03-Jun	GULFBE	429576	7580383	on	L	Seal Breathing Hole	3			
03-Jun	GULFBE	427129	7580371	on	L	Seal Breathing Hole	1			
03-Jun	GULFBE	425796	7580347	on	L	Bearded Seal	1			
03-Jun	GULFBE	410342	7580219			Caribou		TRACKS	6	SW-NE
03-Jun	GULFBE	406870	7580180			Caribou		TRACKS	6	
03-Jun	GULFBE	406230	7580170		R	Sandhill Crane	2			
03-Jun	GULFBE	401280	7580076	on	L	Ring Seal	2			
03-Jun	GULFBE	401280	7580076	on	L	Bearded Seal	1			
03-Jun	GULFBE	394156	7580024	off	L	Unidentified Seal	2			
03-Jun	GULFBE	392415	7580038	on	R	Ring Seal	2			
03-Jun	GULFBE	389138	7580000			Caribou		Tracks	1	N-S
03-Jun	GULFBE	387518	7580010	off	R	Bearded Seal	1			
03-Jun	GULFBE	382443	7579969			Caribou		Tracks	2	E-W
03-Jun	GULFBE	381574	7579078			Caribou		Tracks	4	SEVERAL - NW
03-Jun	GULFBE	382764	7577924			Caribou		Tracks	10	SEVERAL - NW
03-Jun	GULFBE	383688	7576709			Caribou		Tracks	10	SEVERAL - NW
03-Jun	GULFBE	385270	7574551			Caribou		Tracks	10	N-S
03-Jun	GULFAW	389442	7571862	on	L	Seal Breathing Hole	2			
03-Jun	GULFAW	392544	7571904	on	L	Ring Seal	1			
03-Jun	GULFAW	395319	7572012	off	L	Bearded Seal	1			
03-Jun	GULFAW	395616	7572020	on	R	Bearded Seal	1			
03-Jun	GULFAW	396306	7572044	on	L	Ring Seal	1			
03-Jun	GULFAW	397584	7572081	on	L	Ring Seal	1			
03-Jun	GULFAW	398050	7572094	on	R	Seal Breathing Hole	2			
03-Jun	GULFAW	399112	7572098	on	L	Seal Breathing Hole	2			
03-Jun	GULFAW	400496	7572153	off	R	Bearded Seal	1			
03-Jun	GULFAW	401872	7572154	off	R	Unidentified Seal	1			
03-Jun	GULFAW	403842	7572147			Caribou		Tracks	1	N-S
03-Jun	GULFAW	404978	7572149			Caribou		Tracks	2	SEVERAL - N-S

Appendix 1. Caribou Ice Crossing and Spring Seal Aerial Survey Data, June 2010

Date	Transect	Easting	Northing	On/Off Transect	Direction	Species	Total # Individuals	Sign	Total # Sign	Comments
03-Jun	GULFAW	405272	7572152	on	L	Ring Seal	1			
03-Jun	GULFAW	405730	7572145	on	L	Ring Seal	1			
03-Jun	GULFAW	407159	7572147	off	R	Bearded Seal	1			
03-Jun	GULFAW	407513	7572151			Caribou		Tracks	10	SEVERAL - N-S
03-Jun	GULFAW	408355	7572142			Caribou		Tracks	10	SEVERAL - N-S
03-Jun	GULFAW	409778	7572164	on	L	Ring Seal	1			
03-Jun	GULFAW	411777	7572178	on	L	Seal Breathing Hole	1			
03-Jun	GULFAW	413307	7572225	on	L	Ring Seal	1			
03-Jun	GULFAW	415315	7572225	on	L	Ring Seal	1			
03-Jun	GULFAW	416496	7572223	off	R	Bearded Seal	1			
03-Jun	GULFAW	418881	7572220	on	L	Ring Seal	2			
03-Jun	GULFAW	419649	7572199	on	L	Ring Seal	1			
03-Jun	GULFAW	419978	7572186	on	R	Ring Seal	1			
03-Jun	GULFAW	421400	7572165	on	R	Ring Seal	1			
03-Jun	GULFAW	422185	7572169	off	R	Unidentified Seal	1			
03-Jun	GULFAW	422343	7572165	on	L	Ring Seal	1			
03-Jun	GULFAW	425201	7572128	off	R	Unidentified Seal	1			
03-Jun	GULFAW	427280	7572146	on	L	Ring Seal	1			
03-Jun	GULFAW	427280	7572146	off	L	Unidentified Seal	1			
03-Jun	GULFAW	429549	7572147	off	R	Unidentified Seal	1			
03-Jun	GULFAW	432226	7572127	off	R	Unidentified Seal	2			
03-Jun	GULFAW	432763	7572137	on	L	Bearded Seal	1			
03-Jun	GULFAW	435086	7572116	on	L	Bearded Seal	1			
03-Jun	GULFAW	437567	7572033	on	L	Ring Seal	1			
03-Jun	GULFAW	437757	7572035	on	R	Bearded Seal	1			
03-Jun	GULFAW	438921	7572136	on	R	Unidentified Seal	1			
03-Jun	TRANSIT	433460	7567612	OFF	R	Ring Seal	1			
03-Jun	TRANSIT	433233	7567464	OFF	R	Bearded Seal	1			
03-Jun	GULF2E	427266	7563713	ON	R	Ring Seal	2			
03-Jun	GULF2E	421713	7563698	ON	R	Ring Seal	2			
03-Jun	GULF2E	418717	7563671	OFF	L	Unidentified Seal	1			
03-Jun	GULF2E	412328	7563409	on	R	Bearded Seal	1			
03-Jun	GULF2E	412328	7563409	off	R	Bearded Seal	2			
03-Jun	GULF2E	412711	7562748	on	L	Ring Seal	2			
03-Jun	GULF2E	412626	7564082	on	L	Ring Seal	1			
03-Jun	GULF2E	410557	7564166	on	L	Seal Breathing Hole	1			
03-Jun	GULF2E	409615	7564130	off	R	Ring Seal	1			
03-Jun	GULF2E	409138	7564143	off	L	Ring Seal	1			
03-Jun	GULF2E	408168	7564146	on	L	Ring Seal	1			
03-Jun	GULF2E	408168	7564146	off	R	Ring Seal	1			
03-Jun	GULF2E	407396	7564137	off	R	Bearded Seal	1			
03-Jun	GULF2E	406791	7564125	off	L	Ring Seal	1			
03-Jun	GULF2E	406021	7564119	ON	L	Seal Breathing Hole				
03-Jun	GULF2E	404473	7564168	ON	R	Seal Breathing Hole				
03-Jun	GULF2E	400733	7564137	ON	L	Ring Seal	1			

Appendix 1. Caribou Ice Crossing and Spring Seal Aerial Survey Data, June 2010

Date	Transect	Easting	Northing	On/Off Transect	Direction	Species	Total # Individuals	Sign	Total # Sign	Comments
03-Jun	GULF2E	399809	7564090	off	L	Ring Seal	1			
03-Jun	GULF2E	393590	7563979	off	L	Unidentified Seal	1			
03-Jun	GULF2E	392186	7564019	ON	L	Seal Breathing Hole				
03-Jun	GULF2E	387373	7564164	off	L	Unidentified Seal	1			
03-Jun	GULF2E	386419	7564221	off	L	Ring Seal	1			
03-Jun	GULF2E	385706	7564245	ON	L	Ring Seal	1			
03-Jun	GULF2E	385029	7564246	ON	L	Seal Breathing Hole				
03-Jun	GULF2E	383629	7564246	off	L	Unidentified Seal	1			
03-Jun	GULF2E	382944	7564246	ON	R	Ring Seal	1			
03-Jun	GULF2E	382763	7564248	ON	L	Bearded Seal				
03-Jun	GULF2E	617124	7563815	ON	L	Bearded Seal	1			
03-Jun	GULF2E	616877	7563785	OFF	R	Ring Seal	1			
03-Jun	GULF2E	607828	7562917	ON	L	Ring Seal	1			
03-Jun	GULF2E	603574	7562502	ON	L	Seal Breathing Hole	1			
03-Jun	GULF2E	601432	7562404	ON	R	Ring Seal	1			
03-Jun	GULF2E	600492	7562363	OFF	L	Unidentified Seal	1			
03-Jun	GULF2E	595771	7562049	OFF	R	Unidentified Seal	1			
03-Jun	GULF2E	594976	7561977	ON	L	Unidentified Seal	1			
03-Jun	GULF2E	593673	7562000	ON	L	Ring Seal	1			
03-Jun	GULF2E	593408	7562015	ON	L	Ring Seal	1			
03-Jun	GULF2E	593231	7562022	ON	L	Ring Seal	1			
03-Jun	GULF2E	592930	7562029	ON	L	Ring Seal	2			
03-Jun	GULF2E	592242	7561871	OFF	R	Unidentified Seal	2			
03-Jun	TRANSIT	592478	7559462	OFF	L	Ring Seal	1			
03-Jun	TRANSIT	592652	7557452	OFF	R	Unidentified Seal	1			
03-Jun	TRANSIT	592740	7556698	OFF	L	Seal Breathing Hole	1			
03-Jun	TRANSIT	592786	7556413	OFF	L	Unidentified Seal	1			
03-Jun	TRANSIT	592951	7554958	OFF	L	Caribou	1			YOUNG BULL ON LAKE ICE
03-Jun	GULF4W1	596236	7553711	ON	L	Ring Seal	1			
03-Jun	GULF4W1	597490	7553709	ON	L	Ring Seal	2			
03-Jun	GULF4W1	598256	7553777	ON	L	Unidentified Seal	1			
03-Jun	GULF4W1	599401	7553915	OFF	R	Unidentified Seal	1			
03-Jun	GULF4W1	600714	7554077	ON	L	Ring Seal	2			
03-Jun	GULF4W1	600817	7554090	ON	L	Seal Breathing Hole	1			
03-Jun	GULF4W1	602601	7554199	OFF	R	Ring Seal	1			
03-Jun	GULF4W1	604554	7554363	ON	L	Seal Breathing Hole	1			
03-Jun	GULF4W1	604554	7554363	ON	L	Ring Seal	1			
03-Jun	GULF4W1	607152	7554628	ON	L	Seal Breathing Hole	1			
03-Jun	GULF4W1	608722	7554792	ON	R	Bearded Seal	1			
03-Jun	GULF4W1	609680	7554876		R	Caribou		Tracks	10	N-S
03-Jun	GULF4W1	614398	7555339	OFF	R	Unidentified Seal	1			
03-Jun	GULF4W1	614885	7555401	OFF	L	Unidentified Seal	1			
03-Jun	GULF4W1	618669	7555709	ON	L	Seal Breathing Hole	1			
03-Jun	GULF4W1	619361	7555748	OFF	L	Unidentified Seal	1			
03-Jun	GULF4W1	622623	7556142	ON	L	Seal Breathing Hole	1			

Appendix 1. Caribou Ice Crossing and Spring Seal Aerial Survey Data, June 2010

Date	Transect	Easting	Northing	On/Off Transect	Direction	Species	Total # Individuals	Sign	Total # Sign	Comments
03-Jun	GULF4W1	623357	7556220	ON	L	Ring Seal	1			
03-Jun	GULF4W1	623968	7556259	ON	R	Ring Seal	2			
03-Jun	GULF4W1	624574	7556287	ON	L	Bearded Seal	1			
03-Jun	GULF4W1	375664	7556322	ON	L	Seal Breathing Hole	3			
03-Jun	GULF4W1	376656	7556330	ON	L	Ring Seal	1			
03-Jun	GULF4W1	376857	7556330	ON	L	Ring Seal	1			
03-Jun	GULF4W1	378434	7556308	ON	L	Ring Seal	1			
03-Jun	GULF4W1	379271	7556319	OFF	L	Unidentified Seal	1			
03-Jun	GULF4W1	386259	7556367	OFF	R	Unidentified Seal	2			
03-Jun	GULF4W1	387371	7556346	OFF	L	Seal Breathing Hole	1			
03-Jun	GULF4W1	389008	7556397	ON	L	Bearded Seal	2			
03-Jun	GULF4W1	391567	7556392	ON	L	Ring Seal	1			
03-Jun	GULF4W1	393708	7556402	ON	L	Ring Seal	2			
03-Jun	GULF4W1	394748	7556424	OFF	L	Unidentified Seal	1			
03-Jun	GULF4W1	400414	7556382	ON	L	Ring Seal	1			
03-Jun	GULF4W1	402159	7556345	OFF	R	Unidentified Seal	1			
03-Jun	GULF4W1	402598	7556324	ON	R	Ring Seal	1			
03-Jun	GULF4W1	403813	7556264	ON	L	Seal Breathing Hole	3			
03-Jun	GULF4W1	405001	7556252	ON	R	Ring Seal	1			
03-Jun	GULF4W1	405493	7556225	OFF	R	Unidentified Seal	1			
03-Jun	GULF4W1	406052	7556180	OFF	R	Bearded Seal	2			
03-Jun	GULF4W1	407440	7556060	ON	L	Ring Seal	1			
03-Jun	TRANSIT	407633	7556042	OFF	R	Unidentified Seal	2			
03-Jun	TRANSIT	407633	7556042	OFF	R	Unidentified Seal	2			
03-Jun	TRANSIT	412185	7556308	OFF	R	Seal Breathing Hole	1			
03-Jun	TRANSIT	425635	7558070	OFF	L	Ring Seal	1			
03-Jun	Melville South									
03-Jun	GULF8E	421629	7552637	OFF	L	Caribou	13			BULLS
03-Jun	GULF8E	373962	7523911			Golden Eagle	1			
03-Jun	GULF8E	625142	7523761	ON	L	Ring Seal	1			
03-Jun	GULF8E	624464	7523703	OFF	R	Unidentified Seal	3			
03-Jun	GULF8E	623929	7523628	ON	R	Ring Seal	1			
03-Jun	GULF8E	622526	7523456	OFF	L	Unidentified Seal	3			
03-Jun	GULF8E	620925	7523334	OFF	L	Seal Breathing Hole	1			
03-Jun	GULF8E	620672	7523318	ON	L	Ring Seal	1			
03-Jun	GULF8E	618327	7523151	ON	R	Ring Seal	2			
03-Jun	GULF8E	617757	7523100	ON	R	Bearded Seal	1			
03-Jun	GULF8E	615764	7522946	OFF	R	Unidentified Seal	2			
03-Jun	GULF8E	615764	7522946	ON	R	Bearded Seal	1			
03-Jun	GULF8E	611904	7522562	ON	L	Ring Seal	1			
03-Jun	GULF8E	610310	7522394	ON	L	Ring Seal	1			
03-Jun	GULF8E	607764	7522195	ON	L	Seal Breathing Hole	3			
03-Jun	GULF8E	606958	7522152	ON	L	Ring Seal	1			
03-Jun	GULF8E	606329	7522144	OFF	L	Ring Seal	1			
03-Jun	GULF8E	605626	7522148	OFF	L	Unidentified Seal	1			

Appendix 1. Caribou Ice Crossing and Spring Seal Aerial Survey Data, June 2010

Date	Transect	Easting	Northing	On/Off Transect	Direction	Species	Total # Individuals	Sign	Total # Sign	Comments
03-Jun	GULF8E	604986	7522119	OFF	L	Unidentified Seal	1			
03-Jun	GULF8E	603706	7522073	OFF	R	Unidentified Seal	1			
03-Jun	GULF8E	602912	7522078	ON	L	Ring Seal	1			
03-Jun	GULF8E	602091	7522036	ON	L	Bearded Seal	1			
03-Jun	GULF8E	601216	7521970	ON	R	Ring Seal	1			
03-Jun	GULF8E	600320	7521912	ON	L	Ring Seal	1			
03-Jun	GULF8E	598741	7521826	OFF	L	Unidentified Seal	1			
03-Jun	GULF8E	598319	7521813	OFF	R	Unidentified Seal	1			
03-Jun	GULF8E	597091	7521794	ON	L	Ring Seal	1			
03-Jun	GULF8E	596710	7521814	ON	R	Ring Seal	1			
03-Jun	GULF8E	595985	7521855	OFF	L	Unidentified Seal	1			
03-Jun	TRANSIT	593703	7521977	OFF	L	Unidentified Seal	1			
03-Jun	TRANSIT	591769	7522770	OFF	R	Unidentified Seal	1			
03-Jun	TRANSIT	591769	7522770	OFF	R	Seal Breathing Hole	2			
03-Jun	TRANSIT	592368	7526202	OFF	L	Unidentified Seal	1			
03-Jun	TRANSIT	592550	7527158	OFF	R	Unidentified Seal	2			
03-Jun	TRANSIT	592852	7528895	OFF	L	Seal Breathing Hole	2			
03-Jun	GULF7W1	592879	7529184	OFF	R	Unidentified Seal	1			
03-Jun	GULF7W1	594109	7530638	OFF	R	Unidentified Seal	3			
03-Jun	GULF7W1	595941	7530861	ON	L	Ring Seal	3			
03-Jun	GULF7W1	597385	7530963	ON	L	Ring Seal	2			
03-Jun	GULF7W1	597385	7530963	ON	R	Unidentified Seal	1			
03-Jun	GULF7W1	597637	7530981	ON	R	Seal Breathing Hole	2			
03-Jun	GULF7W1	598559	7531045	ON	R	Bearded Seal	1			
03-Jun	GULF7W1	601024	7531198			Arctic Tern	3			
03-Jun	GULF7W1	604214	7531500	ON	R	Ring Seal	1			
03-Jun	GULF7W1	605552	7531598	ON	R	Bearded Seal	1			
03-Jun	GULF7W1	606192	7531629	OFF	R	Unidentified Seal	5			
03-Jun	GULF7W1	608708	7531708	ON	L	Ring Seal	2			
03-Jun	GULF7W1	609397	7531770	ON	L	Ring Seal	1			
03-Jun	GULF7W1	609855	7531794	ON	R	Ring Seal	1			
03-Jun	GULF7W1	612025	7531982	ON	R	Bearded Seal	2			
03-Jun	GULF7W1	614334	7532100	ON	R	Bearded Seal	1			
03-Jun	GULF7W1	617678	7532212	ON	L	Unidentified Seal	1			
03-Jun	GULF7W1	619199	7532259	ON	R	Ring Seal	1			
03-Jun	GULF7W1	375757	7532628	ON	L	Seal Breathing Hole	1			
03-Jun	GULF7W1	378208	7532337	ON	L	Seal Breathing Hole	2			
03-Jun	GULF7W1	378960	7532284	ON	R	Seal Breathing Hole	1			
03-Jun	TRANSIT	379286	7532260	ON	R	Unidentified Seal	2			
03-Jun	TRANSIT	383035	7532809	OFF	L	Seal Breathing Hole	1			
03-Jun	TRANSIT	383643	7533505	OFF	L	Seal Breathing Hole	2			
03-Jun	TRANSIT	383643	7533505	OFF	L	Seal Breathing Hole	2			
03-Jun	TRANSIT	384750	7534695	OFF	R	Seal Breathing Hole	2			
03-Jun	TRANSIT	385413	7535451	OFF	R	Seal Breathing Hole	1			
03-Jun	TRANSIT	385413	7535451	OFF	L	Seal Breathing Hole	1			

Appendix 1. Caribou Ice Crossing and Spring Seal Aerial Survey Data, June 2010

Date	Transect	Easting	Northing	On/Off Transect	Direction	Species	Total # Individuals	Sign	Total # Sign	Comments
03-Jun	TRANSIT	385836	7535908	OFF	R	Seal Breathing Hole	1			
03-Jun	TRANSIT	387505	7537731	OFF	R	Seal Breathing Hole	2			
03-Jun	GULF6E	388745	7539202	OFF	L	Seal Breathing Hole	2			
03-Jun	GULF6E	388745	7539202	OFF	R	Seal Breathing Hole	1			
03-Jun	GULF6E	384559	7540471	OFF	R	Unidentified Seal	1			
03-Jun	GULF6E	383455	7540485	ON	R	Ring Seal	1			
03-Jun	GULF6E	381449	7540515	ON	R	Bearded Seal	1			
03-Jun	GULF6E	379848	7540602			Caribou		Tracks	2	SEVERAL E-W
03-Jun	GULF6E	376204	7540695	ON	L	Ring Seal	1			
03-Jun	GULF6E	624019	7540478	ON	L	Unidentified Seal	2			
03-Jun	GULF6E	616153	7539970	ON	L	Seal Breathing Hole	1			
03-Jun	GULF6E	615033	7539865	ON	L	Seal Breathing Hole	1			
03-Jun	GULF6E	613488	7539661	ON	L	Ring Seal	1			
03-Jun	GULF6E	612410	7539547	ON	R	Bearded Seal	1			
03-Jun	GULF6E	610731	7539433	OFF	R	Unidentified Seal	1			
03-Jun	GULF6E	609763	7539355	ON	L	Ring Seal	2			
03-Jun	GULF6E	609541	7539330	OFF	L	Ring Seal	2			
03-Jun	GULF6E	609541	7539330	ON	R	Bearded Seal	1			PUP?
03-Jun	GULF6E	609008	7539272	ON	R	Ring Seal	1			
03-Jun	GULF6E	608631	7539239	ON	R	Bearded Seal	2			
03-Jun	GULF6E	606716	7539082	ON	L	Ring Seal	1			
03-Jun	GULF6E	606716	7539082	ON	L	Seal Breathing Hole	1			
03-Jun	GULF6E	605775	7539022	OFF	L	Ring Seal	1			
03-Jun	GULF6E	605031	7538975	OFF	R	Unidentified Seal	1			
03-Jun	GULF6E	602847	7538794	ON	R	Bearded Seal	2			
03-Jun	GULF6E	602159	7538729	ON	R	Seal Breathing Hole	1			
03-Jun	GULF6E	600653	7538604	ON	R	Unidentified Seal	2			
03-Jun	GULF6E	599599	7538518	ON	R	Seal Breathing Hole	2			
03-Jun	GULF6E	597405	7538393	OFF	L	Unidentified Seal	1			
03-Jun	GULF6E	595185	7538239	ON	R	Ring Seal	1			
03-Jun	GULF6E	595185	7538239	OFF	L	Ring Seal	1			
03-Jun	TRANSIT	592385	7537890	OFF	R	Ring Seal	2			
03-Jun	TRANSIT	591881	7538364	OFF	R	Ring Seal	1			
03-Jun	TRANSIT	592019	7539162	OFF	L	Ring Seal	2			
03-Jun	TRANSIT	592494	7542269	OFF	L	Seal Breathing Hole	5			
03-Jun	GULF5W1	592883	7545415	OFF	R	Bearded Seal	1			
03-Jun	GULF5W1	592883	7545415	ON	L	Seal Breathing Hole	2			
03-Jun	GULF5W1	593060	7546341	ON	L	Unidentified Seal	1			
03-Jun	GULF5W1	594109	7546596	ON	L	Seal Breathing Hole	1			
03-Jun	GULF5W1	595159	7546706	ON	L	Ring Seal	1			
03-Jun	GULF5W1	596686	7546842			Caribou		Tracks	10	SEVERAL CRISS CROSSING
03-Jun	GULF5W1	597440	7546880	OFF	L	Unidentified Seal	1			
03-Jun	GULF5W1	600473	7547156	ON	L	Ring Seal	1			
03-Jun	GULF5W1	601319	7547210	OFF	R	Ring Seal	2			
03-Jun	GULF5W1	602892	7547284	ON	L	Seal Breathing Hole	1			

Appendix 1. Caribou Ice Crossing and Spring Seal Aerial Survey Data, June 2010

Date	Transect	Easting	Northing	On/Off Transect	Direction	Species	Total # Individuals	Sign	Total # Sign	Comments
03-Jun	GULF5W1	606368	7547467	OFF	R	Ring Seal	2			
03-Jun	GULF5W1	617028	7548345	ON	R	Seal Breathing Hole	1			
03-Jun	GULF5W1	618602	7548395	OFF	L	Unidentified Seal	1			
03-Jun	GULF5W1	374835	7548552	ON	R	Seal Breathing Hole	1			
03-Jun	GULF5W1	375819	7548465	ON	R	Ring Seal	1			
03-Jun	GULF5W1	377157	7548322	ON	L	Seal Breathing Hole	1			
03-Jun	TRANSIT	377396	7548296	ON	L	Ring Seal	1			
03-Jun	TRANSIT	384084	7548672			Caribou		Tracks	10	E-W
03-Jun	TRANSIT	398939	7551605	OFF		Seal Breathing Hole	1			
03-Jun	TRANSIT	401462	7552096	OFF		Seal Breathing Hole	1			
03-Jun	TRANSIT	402321	7552283	OFF		Seal Breathing Hole	1			
03-Jun	TRANSIT	404238	7552702	OFF		Seal Breathing Hole	2			ALONG A CRACK
03-Jun	TRANSIT	412227	7554324	OFF		Wolverine	1			
04-Jun	TRANSIT	423381	7563942	OFF		Ring Seal	1			
04-Jun	TRANSIT	423381	7563942	OFF		Ring Seal	1			
04-Jun	TRANSIT	418831	7562906	OFF		Ring Seal	1			
04-Jun	TRANSIT	420686	7562435	OFF		Bearded Seal	1			
04-Jun	TRANSIT	422834	7561874	OFF		Ring Seal	1			FOGGED OUT
04-Jun	TRANSIT	427723	7560482	OFF		Ring Seal	1			
05-Jun	TRANSIT	425664	7558405	OFF	L	Ring Seal	1			END OF ABOUT 20KM OF ISLANDS
05-Jun	TRANSIT	418066	7556312	OFF	L	Unidentified Seal	1			
05-Jun	TRANSIT	412383	7554690	OFF	L	Ring Seal	1			
05-Jun	TRANSIT	402984	7551422	OFF	L	Ring Seal	1			
05-Jun	TRANSIT	377688	7543021	OFF	R	Seal Breathing Hole	6			
05-Jun	TRANSIT	614520	7536774	OFF	L	Ring Seal	1			
05-Jun	TRANSIT	614349	7536705	OFF	L	Ring Seal	1			
05-Jun	TRANSIT	614127	7536615	OFF	L	Ring Seal	1			
05-Jun	TRANSIT	613953	7536547	OFF	L	Ring Seal	1			
05-Jun	TRANSIT	613441	7536351	OFF	R	Bearded Seal	2			SPREAD OUT
05-Jun	TRANSIT	612041	7535770	OFF	L	Ring Seal	1			
05-Jun	TRANSIT	601439	7531453	OFF	L	Ring Seal	3			
05-Jun	TRANSIT	597339	7529718	OFF	L	Ring Seal	1			
05-Jun	TRANSIT	595620	7528995	OFF	L	Ring Seal	1			
05-Jun	TRANSIT	595305	7528872	OFF	L	Ring Seal	2			
05-Jun	TRANSIT	594656	7528637	OFF	R	Ring Seal	1			
05-Jun	TRANSIT	591839	7527672	OFF	R	Unidentified Seal	1			
05-Jun	TRANSIT	589317	7526757	OFF	L	Ring Seal	1			
05-Jun	TRANSIT	588438	7526406	OFF	L	Ring Seal	1			
05-Jun	TRANSIT	588152	7526288	OFF	L	Ring Seal	1			
05-Jun	TRANSIT	585565	7525028	OFF	L	Ring Seal	1			
05-Jun	TRANSIT	584306	7524399	OFF	L	Ring Seal	1			
05-Jun	TRANSIT	584306	7524399	OFF	R	Bearded Seal	3			
05-Jun	TRANSIT	581733	7523389	OFF	R	Unidentified Seal	1			
05-Jun	Seal A	576579	7523658	ON	R	Ring Seal	1			
05-Jun	Seal A	576578	7523884	OFF	R	Unidentified Seal	1			

Appendix 1. Caribou Ice Crossing and Spring Seal Aerial Survey Data, June 2010

Date	Transect	Easting	Northing	On/Off Transect	Direction	Species	Total # Individuals	Sign	Total # Sign	Comments
05-Jun	Seal A	576591	7524512	ON	L	Ring Seal	2			
05-Jun	Seal A	576585	7525497	ON	R	Ring Seal	1			
05-Jun	Seal A	576585	7525497	ON	R	Bearded Seal	1			
05-Jun	Seal A	576588	7526116	ON	R	Ring Seal	1			
05-Jun	Seal A	576593	7526713	ON	L	Seal Breathing Hole	1			
05-Jun	Seal A	576597	7527102	OFF	L	Ring Seal	1			
05-Jun	Seal A	576607	7527587	ON	R	Bearded Seal	1			
05-Jun	Seal A	576619	7527899	OFF	L	Ring Seal	1			
05-Jun	Seal A	576650	7529855	ON	L	Ring Seal	1			
05-Jun	Seal A	576799	7535301	OFF	R	Unidentified Seal	2			
05-Jun	Seal A	576821	7535971	ON	R	Seal Breathing Hole	1			
05-Jun	Seal A	576818	7537440	ON	R	Bearded Seal	1			
05-Jun	Seal A	576845	7537940	OFF	R	Unidentified Seal	1			
05-Jun	Seal A	576954	7544811			Tundra Swan	4			
05-Jun	Seal A	576987	7546719			Glaucous Gull	1			ISLAND STARTS
05-Jun	Seal A	577002	7547935	ON	R	Ring Seal	1			
05-Jun	Seal A	577023	7548492	ON	L	Bearded Seal	1			
05-Jun	Seal A	577031	7550164	ON	L	Ring Seal	1			
05-Jun	Seal A	577042	7550885	ON	R	Ring Seal	1			
05-Jun	Seal A	577074	7552184							NORTH END OF BIG ISLAND
05-Jun	Seal A	577111	7553707	ON	R	Ring Seal	1			
05-Jun	Seal A	577132	7555450	ON	R	Ring Seal	1			
05-Jun	Seal A	577185	7557061	ON	L	Ring Seal	1			
05-Jun	Seal A	577193	7558137	ON	R	Ring Seal	1			
05-Jun	Seal A	577199	7558646	ON	R	Ring Seal	1			
05-Jun	Seal A	577347	7564058	OFF	R	Unidentified Seal	1			
05-Jun	Seal A	577378	7566223	ON	R	Seal Breathing Hole	1			
05-Jun	Seal A	577378	7566289	OFF	R	Unidentified Seal	1			
05-Jun	Seal A	577274	7568517							BIG FISSURE
05-Jun	Seal A	577286	7570627	OFF	R	Ring Seal	1			
05-Jun	Seal A	577314	7571259	ON	L	Seal Breathing Hole	1			
05-Jun	Seal A	577330	7573251	OFF	L	Unidentified Seal	1			
05-Jun	Seal A	577354	7575897	ON	L	Ring Seal	1			
05-Jun	Seal A	577355	7575975	OFF	R	Unidentified Seal	3			
05-Jun	Seal A	577357	7576247	ON	R	Ring Seal	1			
05-Jun	Seal A	577378	7577040	ON	R	Ring Seal	1			
05-Jun	Seal A	577393	7577455	ON	L	Ring Seal	1			
05-Jun	Seal A	577401	7578098	OFF	R	Unidentified Seal	1			
05-Jun	Seal A	577404	7578450	ON	L	Ring Seal	1			
05-Jun	Seal A	577426	7579098							
05-Jun	Seal A	577433	7580212	ON	L	Ring Seal	1			
05-Jun	Seal A	577456	7581031	OFF	R	Unidentified Seal	1			
05-Jun	Seal A	577436	7582044	OFF	L	Unidentified Seal	2			
05-Jun	Seal A	577430	7582560	ON	L	Ring Seal	1			
05-Jun	Seal A	577446	7583268	ON	L	Ring Seal	1			

Appendix 1. Caribou Ice Crossing and Spring Seal Aerial Survey Data, June 2010

Date	Transect	Easting	Northing	On/Off Transect	Direction	Species	Total # Individuals	Sign	Total # Sign	Comments
05-Jun	Seal A	577460	7583709	OFF	R	Ring Seal	1			
05-Jun	Seal A	577460	7583709	OFF	R	Bearded Seal	1			
05-Jun	Seal A	577477	7584162	OFF	R	Unidentified Seal	2			
05-Jun	Seal A	577508	7587036	OFF	R	Unidentified Seal	2			
05-Jun	Seal A	577550	7587669	ON	L	Ring Seal	2			
05-Jun	Seal A	577530	7588505	OFF	R	Unidentified Seal	1			
05-Jun	Seal A	577522	7588924	ON	R	Ring Seal	1			
05-Jun	Seal A	577546	7590325	OFF	L	Unidentified Seal	1			
05-Jun	Seal A	577539	7590664	ON	R	Ring Seal	1			
05-Jun	Seal A	577504	7591171	OFF	L	Unidentified Seal	1			
05-Jun	Seal A	577477	7591521	OFF	R	Unidentified Seal	2			
05-Jun	Seal A	577466	7592571	ON	R	Ring Seal	1			
05-Jun	Seal A	577503	7593413	ON	R	Ring Seal	1			
05-Jun	Seal A	577497	7594241	OFF	R	Ring Seal	1			
05-Jun	Seal A	577476	7594637	ON	L	Unidentified Seal	7			
05-Jun	Seal A	577465	7594913	ON	L	Ring Seal	2			
05-Jun	Seal A	577454	7595356	ON	R	Ring Seal	1			
05-Jun	Seal A	577476	7596202	OFF	L	Unidentified Seal	2			
05-Jun	Seal A	577487	7597083	ON	R	Unidentified Seal	4			
05-Jun	Seal A	577474	7597470	OFF	R	Unidentified Seal	1			
05-Jun	Seal A	577479	7597949	ON	L	Ring Seal	1			
05-Jun	Seal A	577490	7598236	OFF	R	Unidentified Seal	1			
05-Jun	Seal A	577512	7598723	ON	L	Ring Seal	2			
05-Jun	Seal A	577537	7599624	ON	R	Ring Seal	1			
05-Jun	Seal A	577547	7600188	ON	R	Ring Seal	1			
05-Jun	Seal A	577558	7600931	ON	L	Seal Breathing Hole	1			
05-Jun	Seal A	577565	7601341	OFF	R	Unidentified Seal	4			
05-Jun	Seal A	577587	7601952	ON	R	Unidentified Seal	1			
05-Jun	Seal A	577644	7602836	OFF	R	Unidentified Seal	4			
05-Jun	Seal A	577712	7604141	ON	L	Ring Seal	1			
05-Jun	Seal A	577723	7604633	OFF	R	Unidentified Seal	3			
05-Jun	Seal A	577735	7605163	ON	R	Unidentified Seal	4			
05-Jun	Seal A	577737	7605218	OFF	R	Unidentified Seal	3			
05-Jun	Seal A	577738	7605274	ON	R	Ring Seal	1			
05-Jun	Seal A	577752	7605842	ON	R	Ring Seal	1			
05-Jun	Seal A	577767	7606333	ON	L	Ring Seal	1			
05-Jun	Seal A	577806	7606967	ON	L	Unidentified Seal	5			
05-Jun	TRANSIT	578643	7607658	OFF		Bearded Seal	1			
05-Jun	TRANSIT	579040	7608186	OFF		Ring Seal	3			
05-Jun	TRANSIT	579816	7609266	OFF		Caribou	13			E-W
05-Jun	TRANSIT	580613	7610230	OFF		Unidentified Seal	1			
05-Jun	TRANSIT	582646	7612918	OFF		Ring Seal	1			
05-Jun	TRANSIT	583092	7613475	OFF		Ring Seal	2			
05-Jun	TRANSIT	583472	7613938	OFF		Ring Seal	1			
05-Jun	TRANSIT	583618	7614120	OFF		Ring Seal	3			

Appendix 1. Caribou Ice Crossing and Spring Seal Aerial Survey Data, June 2010

Date	Transect	Easting	Northing	On/Off Transect	Direction	Species	Total # Individuals	Sign	Total # Sign	Comments
05-Jun	TRANSIT	584135	7614879	OFF		Unidentified Seal	9			SPREAD OUT
05-Jun	TRANSIT	584651	7615715	OFF		Unidentified Seal	4			SPREAD OUT
05-Jun	TRANSIT	585025	7616269	OFF		Unidentified Seal	4			
05-Jun	TRANSIT	585381	7616741	OFF		Unidentified Seal	1			SPREAD OUT
05-Jun	TRANSIT	586023	7617503	OFF		Unidentified Seal	5			
05-Jun	TRANSIT	586432	7617991	OFF		Unidentified Seal	1			
05-Jun	TRANSIT	586787	7618482	OFF		Unidentified Seal	1			
05-Jun	TRANSIT	587222	7619077	OFF		Unidentified Seal	1			
05-Jun	TRANSIT	588204	7620206	OFF		Ring Seal	2			
05-Jun	TRANSIT	588769	7619729	OFF		Unidentified Seal	1			
05-Jun	Seal C	588729	7618244	OFF	L	Unidentified Seal	4			
05-Jun	Seal C	588770	7616635	OFF	R	Unidentified Seal	3			
05-Jun	Seal C	588742	7615414	ON	L	Ring Seal	1			
05-Jun	Seal C	588678	7614659	OFF	L	Unidentified Seal	3			
05-Jun	Seal C	588666	7614540	OFF	L	Unidentified Seal	1			
05-Jun	Seal C	588644	7614228	ON	R	Unidentified Seal	1			
05-Jun	Seal C	588637	7613900	ON	R	Unidentified Seal	2			
05-Jun	Seal C	588637	7613478	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	588636	7613110	OFF	R	Unidentified Seal	2			
05-Jun	Seal C	588236	7611024	OFF	R	Ring Seal	1			
05-Jun	Seal C	588364	7610432	OFF	R	Unidentified Seal	2			
05-Jun	Seal C	588851	7607382	ON	R	Ring Seal	1			
05-Jun	Seal C	588862	7606928	ON	R	Ring Seal	1			
05-Jun	Seal C	588892	7606256	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	588924	7604976	OFF	R	Unidentified Seal	2			
05-Jun	Seal C	588926	7604329	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	588926	7604173	ON	R	Ring Seal	1			
05-Jun	Seal C	588918	7603315	ON	L	Seal Breathing Hole	1			
05-Jun	Seal C	588707	7600898	OFF	R	Unidentified Seal	2			
05-Jun	Seal C	588670	7600367	OFF	L	Ring Seal	2			
05-Jun	Seal C	588642	7599996	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	588619	7599622	OFF	R	Ring Seal	1			
05-Jun	Seal C	588560	7598597	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	588552	7598343	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	588552	7598051	ON	L	Ring Seal	2			
05-Jun	Seal C	588602	7596990	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	588609	7596895	ON	L	Ring Seal	2			
05-Jun	Seal C	588634	7596579	OFF	R	Unidentified Seal	2			
05-Jun	Seal C	588713	7595583	ON	R	Ring Seal	1			
05-Jun	Seal C	588723	7595433	ON	L	Ring Seal	1			
05-Jun	Seal C	588747	7594969	OFF	R	Unidentified Seal	2			
05-Jun	Seal C	588760	7594700	ON	L	Ring Seal	1			
05-Jun	Seal C	588783	7594242	ON	L	Ring Seal	2			
05-Jun	Seal C	588799	7593929	ON	R	Ring Seal	2			
05-Jun	Seal C	588886	7591416	ON	L	Ring Seal	1			

Appendix 1. Caribou Ice Crossing and Spring Seal Aerial Survey Data, June 2010

Date	Transect	Easting	Northing	On/Off Transect	Direction	Species	Total # Individuals	Sign	Total # Sign	Comments
05-Jun	Seal C	588891	7591296	ON	R	Ring Seal	1			
05-Jun	Seal C	588919	7590570	OFF	R	Unidentified Seal	2			
05-Jun	Seal C	588953	7589873	OFF	L	Unidentified Seal	2			
05-Jun	Seal C	588998	7589171	ON	L	Ring Seal	1			
05-Jun	Seal C	589009	7588991	OFF	R	Unidentified Seal	2			
05-Jun	Seal C	589059	7587581	OFF	R	Unidentified Seal	2			
05-Jun	Seal C	589096	7586668	ON	R	Ring Seal	1			
05-Jun	Seal C	589118	7586010	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	589129	7584993	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	589137	7584015	ON	L	Seal Breathing Hole	1			
05-Jun	Seal C	589133	7582910	OFF	R	Unidentified Seal	2			
05-Jun	Seal C	589130	7582511			Caribou		Tracks	6	
05-Jun	Seal C	589122	7581637	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	589124	7580721	ON	L	Ring Seal	1			
05-Jun	Seal C	589130	7580039	ON	L	Seal Breathing Hole	1			
05-Jun	Seal C	589130	7579469	ON	L	Seal Breathing Hole	2			
05-Jun	Seal C	589130	7579469	ON	L	Ring Seal	1			
05-Jun	Seal C	589139	7577176	ON	L	Ring Seal	5			
05-Jun	Seal C	589154	7576177	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	589151	7575795	ON	R	Ring Seal	1			
05-Jun	Seal C	589088	7572687	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	589086	7572584	ON	R	Seal Breathing Hole	1			
05-Jun	Seal C	589064	7571807	ON	L	Ring Seal	2			
05-Jun	Seal C	589052	7571382	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	589048	7570343	ON	R	Ring Seal	1			
05-Jun	Seal C	589047	7569743	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	589044	7569116	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	589032	7568467	ON	L	Seal Breathing Hole	3			
05-Jun	Seal C	588978	7565964	ON	L	Ring Seal	1			
05-Jun	Seal C	588973	7565527	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	588950	7564990	OFF	L	Unidentified Seal	1			
05-Jun	Seal C	588921	7564070	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	588916	7563380	ON	R	Ring Seal	2			
05-Jun	Seal C	588908	7562774	OFF	R	Unidentified Seal	2			
05-Jun	Seal C	588897	7562356	ON	L	Ring Seal	1			
05-Jun	Seal C	588890	7561851	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	588875	7560873	ON	L	Ring Seal	1			
05-Jun	Seal C	588861	7560465	ON	R	Ring Seal	1			
05-Jun	Seal C	588858	7560395	ON	L	Ring Seal	2			
05-Jun	Seal C	588817	7559263	ON	L	Seal Breathing Hole	1			
05-Jun	Seal C	588786	7558411	ON	R	Bearded Seal	1			
05-Jun	Seal C	588755	7557394	ON	R	Ring Seal	2			
05-Jun	Seal C	588753	7557004	ON	L	Ring Seal	2			
05-Jun	Seal C	588746	7556256	ON	R	Ring Seal	2			
05-Jun	Seal C	588733	7555776	ON	L	Ring Seal	2			

Appendix 1. Caribou Ice Crossing and Spring Seal Aerial Survey Data, June 2010

Date	Transect	Easting	Northing	On/Off Transect	Direction	Species	Total # Individuals	Sign	Total # Sign	Comments
05-Jun	Seal C	588718	7555130	ON	R	Ring Seal	2			
05-Jun	Seal C	588690	7553946	OFF	L	Unidentified Seal	1			
05-Jun	Seal C	588682	7553524	ON	L	Ring Seal	1			
05-Jun	Seal C	588661	7552794	OFF	R	Unidentified Seal	2			
05-Jun	Seal C	588644	7551230	ON	R	Ring Seal	1			
05-Jun	Seal C	588635	7550778	ON	R	Ring Seal	1			
05-Jun	Seal C	588632	7550517	OFF	L	Unidentified Seal	1			
05-Jun	Seal C	588619	7549848	ON	L	Seal Breathing Hole	1			
05-Jun	Seal C	588611	7548966	ON	R	Unidentified Seal	1			
05-Jun	Seal C	588598	7548426	ON	L	Ring Seal	3			
05-Jun	Seal C	588576	7547568	OFF	R	Unidentified Seal	2			
05-Jun	Seal C	588548	7545938	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	588519	7543883	ON	L	Seal Breathing Hole	1			
05-Jun	Seal C	588515	7543000	ON	R	Ring Seal	1			
05-Jun	Seal C	588508	7542257	ON	L	Ring Seal	1			
05-Jun	Seal C	588508	7542257	ON	L	Bearded Seal	1			
05-Jun	Seal C	588504	7541792	OFF	R	Unidentified Seal	1			
05-Jun	Seal C	588511	7541300	OFF	L	Unidentified Seal	2			
05-Jun	Seal C	588514	7540656	OFF		Glaucous Gull	3			
05-Jun	Seal C	588478	7537689	OFF		Ptarmigan	1			
05-Jun	Seal C	588310	7534023	OFF		Snow Goose	16			N-S
05-Jun	Seal C	588260	7533352	OFF		Glaucous Gull	3			ISLAND ENDS
05-Jun	Seal C	588620	7530316	OFF		Glaucous Gull				
05-Jun	TRANSIT	589862	7529172	OFF		Ring Seal	1			
05-Jun	TRANSIT	590688	7529113	OFF		Ring Seal	2			SPREAD OUT
05-Jun	TRANSIT	591694	7529187	OFF		Seal Breathing Hole	1			
05-Jun	TRANSIT	592794	7529264	OFF		Ring Seal	4			
05-Jun	TRANSIT	594124	7529416	OFF		Unidentified Seal	4			
05-Jun	TRANSIT	595115	7529646	OFF		Ring Seal	2			SPREAD OUT
05-Jun	TRANSIT	597003	7530438	OFF		Ring Seal	7			
05-Jun	TRANSIT	597003	7530438	OFF		Bearded Seal	1			
05-Jun	TRANSIT	598020	7530798	OFF		Ring Seal	3			
05-Jun	TRANSIT	598375	7530947	OFF		Ring Seal	1			SPREAD ALONG LONG CRACK
05-Jun	TRANSIT	598375	7530947	OFF		Bearded Seal	1			
05-Jun	TRANSIT	599975	7531662	OFF		Glaucous Gull	2			FLYING
05-Jun	TRANSIT	602173	7532706	OFF		Bearded Seal	1			
05-Jun	TRANSIT	603383	7533178	OFF		Bearded Seal	1			
05-Jun	TRANSIT	603383	7533178	OFF		Ring Seal	13			
05-Jun	TRANSIT	605927	7534102	OFF		Golden Eagle	1			
05-Jun	TRANSIT	607870	7534893	OFF		Ring Seal	1			
05-Jun	TRANSIT	608568	7535120	OFF		Ring Seal	3			
05-Jun	TRANSIT	610336	7535862	OFF		Ring Seal	2			
05-Jun	TRANSIT	610336	7535862	OFF		Unidentified Seal	5			
05-Jun	TRANSIT	611805	7536493	OFF		Ring Seal	2			
05-Jun	TRANSIT	612574	7536798	OFF		Ring Seal	2			

Appendix 1. Caribou Ice Crossing and Spring Seal Aerial Survey Data, June 2010

Date	Transect	Easting	Northing	On/Off Transect	Direction	Species	Total # Individuals	Sign	Total # Sign	Comments
05-Jun	TRANSIT	613282	7537108	OFF		Ring Seal	2			
05-Jun	TRANSIT	614145	7537454	OFF		Ring Seal	2			
05-Jun	TRANSIT	614145	7537454	OFF		Caribou	4			YOUNG BULLS
05-Jun	TRANSIT	614290	7537509	OFF		Unidentified Seal	4			
05-Jun	TRANSIT	615306	7537950	OFF		Ring Seal	1			
05-Jun	TRANSIT	616859	7538568	OFF		Ring Seal	1			
05-Jun	TRANSIT	625460	7542249	OFF		Ring Seal	1			
05-Jun	TRANSIT	374724	7542475	OFF		Seal Breathing Hole	2			
05-Jun	TRANSIT	375056	7542663	OFF		Ring Seal	2			
05-Jun	TRANSIT	375517	7542912	OFF		Seal Breathing Hole	1			
05-Jun	TRANSIT	376203	7543327	OFF		Unidentified Seal	3			ON ICE
05-Jun	TRANSIT	377076	7543901	OFF		Ring Seal	3			
05-Jun	TRANSIT	377076	7543901	OFF		Seal Breathing Hole	2			
05-Jun	TRANSIT	377664	7544343	OFF		Ring Seal	1			
05-Jun	TRANSIT	378464	7544913	OFF		Ring Seal	1			

Appendix 2

Marine Wildlife Barge Survey Data, August 2010

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Appendix 2. Marine Wildlife Barge Survey Data, August 2010

Transect	Date	Time	Latitude	Longitude	Species	Water	Air
15	9/10/2010	12:45	68° 7' 55.636" N	107° 29' 23.154" W	Common Murre	2	
15	9/10/2010	12:45	68° 7' 55.636" N	107° 29' 23.154" W	Ring Seal	1	
23	9/10/2010	13:25	68° 8' 35.520" N	107° 51' 17.700" W	Common Murre		1
47	9/10/2010	15:25	68° 2' 4.472" N	108° 39' 53.927" W	Unidentified Gull		1
51	9/10/2010	15:45	68° 5' 29.817" N	108° 45' 22.300" W	Pacific Loon		1
11	9/11/2010	14:40	69° 2' 55.824" N	104° 58' 47.270" W	Pacific Loon	1	
11	9/11/2010	14:40	69° 2' 54.032" N	104° 58' 49.258" W	Glaucous Gull	1	
11	9/11/2010	14:40	69° 2' 52.638" N	104° 58' 50.470" W	imm. THGU/GLGU	16	
	9/11/2010	14:42	69° 2' 51.480" N	104° 58' 51.840" W	Ring Seal	2	
14	9/11/2010	14:55	69° 2' 31.090" N	105° 0' 17.052" W	Thayer's Gull		1
16	9/11/2010	15:05	69° 2' 36.180" N	105° 1' 51.120" W	Glaucous Gull		1
17	9/11/2010	15:10	69° 2' 39.960" N	105° 3' 9.120" W	Pacific Loon		1
23	9/11/2010	15:40	69° 2' 41.460" N	105° 10' 51.420" W	Long-tailed Duck	3	
23	9/11/2010	15:40	69° 2' 41.460" N	105° 10' 51.420" W	Pacific Loon	2	
24	9/11/2010	15:45	69° 2' 22.967" N	105° 12' 37.141" W	Pacific Loon		1
29	9/11/2010	16:10	69° 0' 27.800" N	105° 20' 23.113" W	Pacific Loon		4
34	9/11/2010	16:35	68° 59' 51.600" N	105° 29' 25.200" W	Thayer's Gull		1
37	9/11/2010	16:50	68° 59' 54.990" N	105° 35' 40.536" W	Thayer's Gull		1
51	9/11/2010	18:00	69° 0' 38.378" N	106° 6' 17.207" W	Glaucous Gull		1
	9/11/2010	18:24	69° 1' 1.800" N	106° 16' 33.960" W	Ring Seal	1	
12	9/12/2010	7:40	68° 3' 47.400" N	108° 4' 18.360" W	Unidentified Loon		2
19	9/12/2010	8:15	68° 7' 28.803" N	107° 54' 5.774" W	Pacific Loon		1
19	9/12/2010	8:15	68° 7' 28.803" N	107° 54' 5.774" W	Unidentified Seal	1	
	9/12/2010	8:27	68° 8' 32.160" N	107° 50' 20.040" W	Bearded Seal	1	
37	9/12/2010	9:45	68° 9' 13.258" N	107° 20' 36.431" W	Pacific Loon		2
	9/12/2010	11:47	68° 14' 11.552" N	106° 39' 9.185" W	Ring Seal	1	

Appendix 3

Caribou Ice Crossing Aerial Survey Data, May 2011

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Appendix 3. Caribou Ice Crossing Aerial Survey Data, May 2011

Date, Time	Zone	Easting	Northing	Caribou Trail	# Male	# Female	# Unknown
22/05/2011 12:26	13 W	406904	7553361	Y - lots		2	
22/05/2011 14:32	13 W	410939	7559967	Y - lots			
22/05/2011 14:34	13 W	404755	7561740	Y - lots			
22/05/2011 14:39	13 W	407128	7563995	Y - lots			
22/05/2011 14:41	13 W	414840	7563986				2
22/05/2011 14:43	13 W	418690	7564084	Y - lots			
22/05/2011 14:45	13 W	424909	7563949	Y - lots			
22/05/2011 15:25	13 W	429608	7567967	Y - lots			
22/05/2011 15:26	13 W	427766	7567991	Y - lots			
22/05/2011 15:26	13 W	427229	7567971	Y - lots			
22/05/2011 15:30	13 W	418810	7568006	Y - lots			
22/05/2011 15:31	13 W	417266	7568036	Y - lots			
22/05/2011 15:32	13 W	414529	7568018				2
22/05/2011 15:35	13 W	408386	7568244	Y - lots			
22/05/2011 15:36	13 W	406027	7568038	Y - lots			
22/05/2011 15:37	13 W	405042	7569306	Y - lots			
22/05/2011 15:39	13 W	407066	7572040	Y - lots			
22/05/2011 15:40	13 W	409310	7571979	Y - lots			
22/05/2011 15:42	13 W	417149	7571966			4	
22/05/2011 15:50	13 W	434154	7572016	Y - lots			