PREPARED FOR

B2Gold Back River Corp.

Back River Mine

2023 Wildlife Mitigation and Monitoring Program Report

DATE
March 2024

REFERENCE
0704187-1.05

ACKNOWLEDGEMENTS

Back River Mine

2023 Wildlife Mitigation and Monitoring Program Report

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ACRONYMS AND ABBREVIATIONS

Term	Description
AIS	Automatic Identification System
B2Gold Nunavut	B2Gold Back River Corp.
CESCC	Canadian Endangered Species Conservation Council
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CTAG	Caribou Technical Advisory Group
CWS	Canadian Wildlife Service, a division of ECCC
ECCC	Environment and Climate Change Canada
FEIS	Final Environmental Impact Statement
GN	Government of Nunavut
GN DOE	Government of Nunavut Department of Environment
GNWT	Government of Northwest Territories
GNWT ENR	Government of Northwest Territories Department of Environment and Natural Resources
Goose Site	The Goose Property Area, encompassing the planned mine location: currently houses the Goose Camp and airstrip used for advanced exploration and construction
GPS	Global Positioning System
h	Hour
ha	Hectare
IEAC	Inuit Environmental Advisory Committee
IOL	Inuit Owned Land
IQ	Inuit Qauajimajatuqangit
JPCSL	Jason Prno Consulting Services Ltd.
KIA	Kitikmeot Inuit Association
km	Kilometre
KM	Kilometer Marker
LSA	Local Study Area
m	metre
the mine	the Back River Mine
MLA	Marine Laydown Area: located on the west coast of Bathurst Inlet.
NIRB	Nunavut Impact Review Board
NTKP	Naonaiyaotit Traditional Knowledge Project

Term	Description
PDA	Project Development Area: the area approved for development by the NIRB.
RSA	Regional Study Area
Sabina	Sabina Gold & Silver Corp.
SARA	*Species at Risk Act*
SOP	Standard Operating Procedure
TK	Traditional Knowledge
TSF	Tailing Storage Facility
UN	Utilization Distribution
VEC	Valued Ecosystem Component
WIR	Winter Ice Road connecting the MLA and Goose Site
WMA	Waste Management Area
WMMP Plan	Wildlife Mitigation and Monitoring Program Plan
WMMP Report	Wildlife Mitigation and Monitoring Program Report
ZOI	Zone of Influence

EXECUTIVE SUMMARY

The Back River Mine is a gold mining project owned by B2Gold Back River Corp. (B2Gold Nunavut), located in the Kitikmeot Region of Nunavut which holds Project Certificate No. 007 from the Nunavut Impact Review Board (NIRB) and a Type A Water License from the Nunavut Water Board (NIRB 2017). The Back River Mine is largely located on Inuit Owned Land (IOL) and consists of a Marine Laydown Area (MLA) located in Bathurst Inlet and the Goose Property Area (Goose site) that are connected by a Winter Ice Road (WIR).

In 2023, the Back River Mine commenced the construction phase, triggering increased mitigation and monitoring relating to wildlife as summarized in the Back River Mine's Wildlife Mitigation and Monitoring Program Plan (WMMP Plan; Sabina 2023a). The various wildlife monitoring programs during the construction phase are scheduled to be implemented during the first three years of construction. Several programs commenced in 2023 and the remaining programs (e.g., regional population monitoring) will begin in 2024. The WMMP Plan focusses on mitigation and monitoring for eight terrestrial wildlife valued ecosystem components (VECs), including caribou (*Rangifer tarandus groenlandicus*), muskox (*Ovibos moschatus*), grizzly bear (*Ursus arctos*), wolverine (*Gulo gulo*), upland breeding birds, waterbirds, raptors, and marine mammals. Mitigation and monitoring for each of these VECs is summarized in this 2023 WMMP Report.

Highlights of monitoring completed in 2023 include:

- Assessment of habitat loss for each VEC;
- WIR monitoring, including wildlife cameras and caribou behaviour surveys;
- Improved monitoring of blasting as relates to wildlife;
- Camp and waste monitoring and management (including waste audits, on-site wildlife cameras, and building inspections);
- Caribou behaviour surveys;
- Seasonal range assessment for the Bathurst and Beverly/Ahiak caribou herds;
- Deployment of 59 regional monitoring wildlife cameras;
- Pre-clearing surveys for birds and bird nests;
- Marine shipping surveys for birds and marine mammals; and
- Incidental observations for all wildlife species.

Based on the results of monitoring conducted in 2023, mitigation measures appear effective in ensuring the potential impacts of the Back River Mine align with those predicted in the Final Environmental Impact Statement (FEIS; Sabina 2015). Extensive and consistent monitoring in 2023 allowed for the identification and execution of adaptive management approaches to further improve mitigation related to wildlife VECs, including:

- Reassessing securement of the incinerator area following multiple wolverine attempts to access the facility;
- Improving waste storage infrastructure at multiple Waste Management Areas, as identified through regular inspections;

- Improving compliance with documentation of waste management, facilities inspection, and pre-blast surveys; and
- Formalizing mortality reporting procedures to ensure compliance with Project Certificate Terms and Conditions.

B2Gold Nunavut continues to strive for excellence in mitigation and monitoring related to wildlife VECs and looks forward to continuing existing monitoring programs and implementing expanded programs as the Back River Mine continues to progress in the construction phase.

1. INTRODUCTION

The Back River Mine is a gold mining project owned by B2Gold Back River Corp. (B2Gold Nunavut), located in the Kitikmeot Region of Nunavut (Figure 1.1-1). The Back River Mine is largely located on Inuit Owned Land (IOL) and has two centres of activity that are connected by a Winter Ice Road (WIR). The two centres of activity are a Marine Laydown Area (MLA) located in Bathurst Inlet and the Goose Property Area (Goose site) about 160 kilometres (km) south of the MLA where the mine will be located.

The Back River Mine holds Project Certificate No. 007 from the Nunavut Impact Review Board (NIRB) and a Type A Water License from the Nunavut Water Board (NIRB 2017). The Back River Mine started construction in 2023, with camps and infrastructure at both the Goose site and MLA. The various wildlife monitoring programs during the construction phase are scheduled to be implemented during the first three years of construction. Several programs commenced in 2023 and the remaining programs (e.g., regional population monitoring) will begin in 2024.

This document presents the results of wildlife monitoring activities for the Back River Mine conducted by B2Gold Nunavut in 2023. The wildlife monitoring program is described in the Wildlife Mitigation and Monitoring Program Plan (WMMP Plan; Sabina 2023a) which was discussed with the Inuit Environmental Advisory Committee (IEAC) and circulated to the Kitikmeot Inuit Association (KIA) and various stakeholders for discussion before implementation. The WMMP Plan identifies the activities to be undertaken annually and presented in the WMMP Report (this document) which is submitted annually.

The introduction of the WMMP Report provides a description of:

- The Project Certificate No. 007 requirements and the objectives for the WMMP (Section 1.1); and
- The WMMP Plan and the 2023 Program components (Section 1.2).

The WMMP is designed to assess potential mine-related effects on Valued Ecosystem Components (VECs) as predicted in the Final Environmental Impact Statement (FEIS; Sabina 2015) and to meet the commitments of NIRB Project Certificates No. 007 (NIRB 2017).

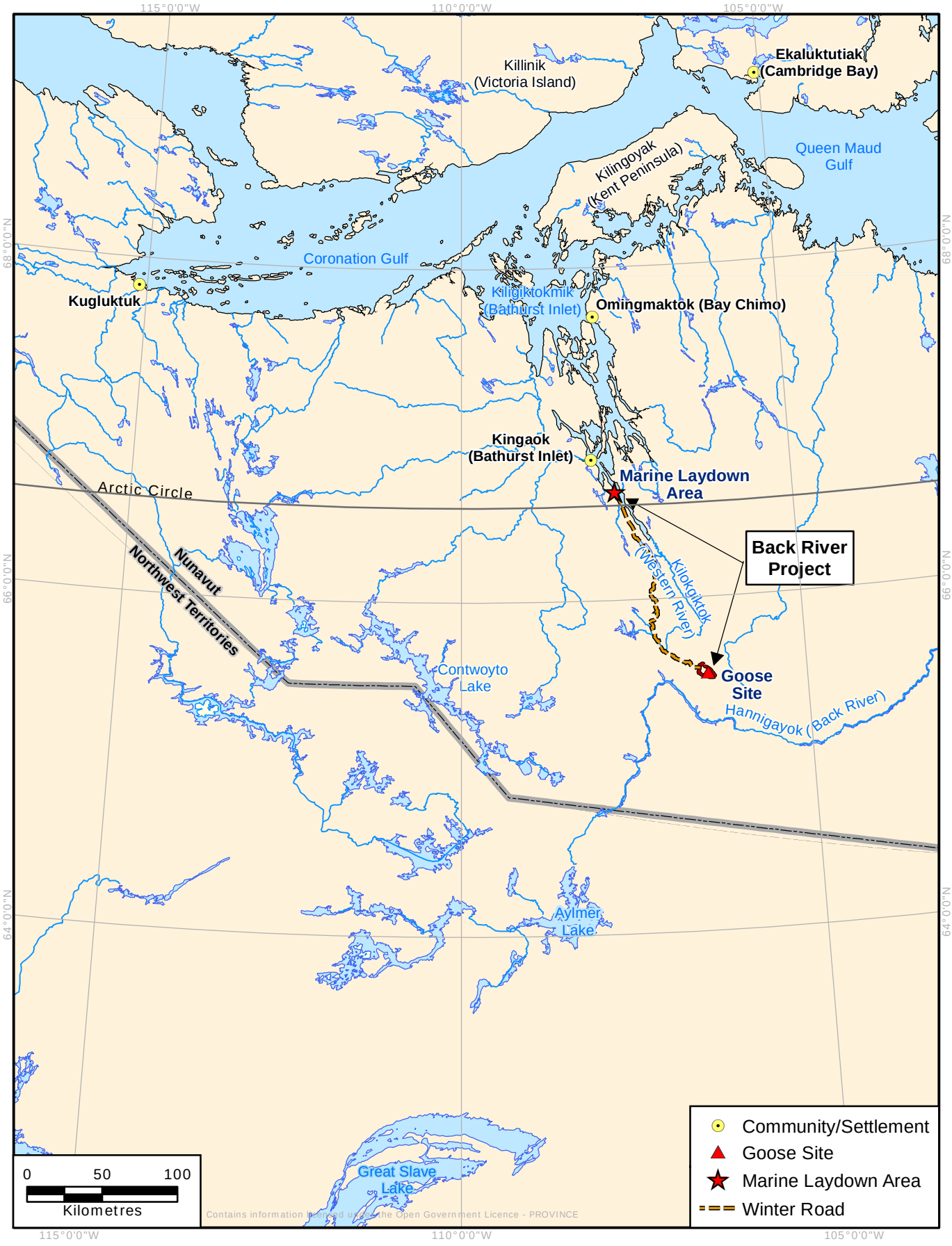
The Report describes the results of the monitoring activities designed to test these predictions including:

- Caribou Mitigation and Monitoring (Section 3);
- Habitat loss due to the Back River mine (Section 2.1);
- Traffic, helicopter, and aircraft, and blasting monitoring to confirm estimates used in the FEIS (Section 2.2, 2.4, and 2.5 respectively).
- VEC-specific monitoring (Section 3 to 8);
- Wildlife use of the Back River site, including any interactions, incidents, and mortalities (Section 9); and

The Report also describes monitoring conducted to guide adaptive management, such as:

- Snowbank monitoring on roadways and WIR monitoring (Section 2.3); and
- Incidental observations (within VEC subsections Section 3 to 8).

FIGURE 1.1-1 BACK RIVER MINE LOCATION



ERM

CLIENT: B2Gold
GIS NUMBER: BAC-23-604a

DATE: 18 March 2024

PROJECTION: NTKP Lambert Conformal Conic
SCALE: 1:3,500,000 when printed at 8.5x11

1.1 PROJECT REQUIREMENTS AND MONITORING OBJECTIVES

1.1.1 PROJECT REQUIREMENTS

The wildlife mitigation and monitoring requirements for the mine were set out in the Back River Mine's Project Certificate No. 007 (NIRB 2007), and commitments made during the review of the Environmental Impact Statement.

The Back River FEIS identified eight terrestrial wildlife VECs, including caribou (*Rangifer tarandus groenlandicus*), muskox (*Ovibos moschatus*), grizzly bear (*Ursus arctos*), wolverine (*Gulo gulo*), upland breeding birds, waterbirds, raptors, and marine mammals. The FEIS predicted five residual effects on wildlife VECs, none of which were predicted to be significant and all negligible or low magnitude (Table 1.1-1):

- Habitat loss;
- Disturbance;
- Disruption of movement;
- Attraction to the site; and
- Direct mortality.

TABLE 1.1-1 MAGNITUDE OF BACK RIVER FEIS RESIDUAL IMPACT PREDICTIONS

VEC	Habitat Loss	Disturbance	Disruption of Movement	Attraction	Direct Mortality
Caribou	Negligible	Low	Low	Not residual	Not residual
Muskox	Low	Low	Low	Not residual	Not residual
Grizzly Bear	Negligible	Not residual	Low	Low	Not residual
Wolverine	Negligible	Not residual	Low	Low	Not residual
Upland Breeding Birds	Low	Negligible	Not residual	Not residual	Low
Waterbirds/seabirds	Low	Negligible	Not residual	Not residual	Low
Raptors	Low	Low	Not residual	Not residual	Low
Marine Mammals	Not residual	Not residual	Not residual	Not residual	Not residual

The WMMP also includes input from the NIRB, Environment and Climate Change Canada (ECCC), the Government of Nunavut Department of the Environment (GN DOE), the Canadian Wildlife Service (CWS), the KIA, and the IEAC. The annual WMMP Reports are also provided to the NIRB who distributes them to stakeholders for review and comments. The WMMP Plan is updated as needed during the life of the mine, in part based on these review comments.

1.1.2 INCORPORATION OF COMMUNITY PERSPECTIVES, INUIT QAUAJIMAJATUQANGIT AND TRADITIONAL KNOWLEDGE IN THE MONITORING PROGRAM

Community perspectives, Inuit Qauajimajatuqangit (IQ), and Traditional Knowledge (TK) are considered throughout the mine's baseline studies, environmental assessment, and wildlife monitoring program. B2Gold Nunavut has developed the document '*Guidance for Incorporating Community Perspectives and Traditional Knowledge in the Back River Project's Monitoring Programs*' to assist in the preparation of its annual monitoring reports.[1]

Community perspectives, IQ, and TK were first considered in the identification of VECs and the assessment of the mine effects in the FEIS (Sabina 2015; 2017); these effects subsequently became a focus of B2Gold Nunavut's WMMP Plan (Sabina 2023a; Version 12).

The following meetings and reports were reviewed for TK-specific information related to wildlife:

- Inuit TK of Sabina Gold & Silver Corp., Back River Project, Naonaiyaotit Traditional Knowledge Project (NTKP) report, commissioned by KIA (2012; Appendix V3-3A of the FEIS);
- Naonaiyaotit Traditional Knowledge Project (NTKP) - Hannigayok (Sabina Gold & Silver Corp. Proposed Back River Project). Results from Data Gaps Workshops, Final Report (June 2014; KIA 2014; Appendix V3-3C of the FEIS [Sabina 2015]);
- Back River Project: Existing and Publicly Available TK from Selected Aboriginal Groups in the Northwest Territories (Appendix V3-3B of the FEIS [Sabina 2015]);
- The NIRB Public Scoping Meetings Summary Report (NIRB 2013). This report summarizes public scoping meetings held by NIRB within five Kitikmeot communities, including residents/families from Bathurst Inlet and Omingmaktok as well as a public scoping meeting in Yellowknife, Northwest Territories; and
- Focus Group Sessions (Rescan 2013) with hunters from Kitikmeot communities.

Community perspectives, IQ, and TK were used to decide which wildlife species to include as VECs. The TK reports present maps of valued animal species, environmental components, and traditional land use activities. This information was used to determine if these valued aspects potentially interacted with the proposed mine, and if so, they were included as VECs.

The Regional Study Area (RSA) for the FEIS and WMMP Plan was defined and modified based on IQ and TK. The boundary was adjusted to include important areas for caribou such as Beechey Lake, grizzly bear habitat along the Western River, and ringed seal (*Pusa hispida*) habitat in Bathurst Inlet.

Baseline studies were designed to characterize wildlife and wildlife habitat identified as culturally important to Inuit. IQ and TK identified important habitat features such as crossing points for caribou, raptor nest locations and carnivore den locations, and important staging areas for migratory birds. Ecosystems of traditional and cultural importance due to their value as wildlife habitat, including eskers, sedge wetlands, marine shores, and riparian ecosystems were incorporated into field studies and habitat mapping.

[1] A copy of this document was included in JPCSL (2020) [NIRB Public Registry ID# 329193].

Examples of important habitat features identified from IQ and TK and incorporated into baseline studies, the FEIS, and the design of the WMMP Plan include:

- The locations of numerous traditional harvesting and habitation areas were used to identify important corridors, crossings, and pinch-points for caribou movement.
- These TK locations, combined with land user information in the field, were used to place trail cameras to study the abundance and timing of movement of wildlife in the RSA, including caribou, muskox, and grizzly bear.
- Habitat usage and foraging locations from TK were incorporated into habitat maps for caribou, grizzly bear, and muskox.
- The location of historic calving ranges for the Bathurst herd, both east and west of Bathurst Inlet was identified and mapped.
- The location of a currently un-used calving area for the Bathurst herd, to the north of Nose Lake and around Beechey Lake was identified.
- The fact that Bathurst herd calving grounds have changed frequently through time between their various historic calving grounds.
- The historic location of the Beverly calving ground.
- The movement patterns of both Bathurst and Beverly caribou herds between their winter, calving, summer, and back to winter ranges.
- The location of the Dolphin and Union herd calving grounds on Victoria Island.
- Movement patterns of the Dolphin and Union herd on Bathurst Inlet and across the Dolphin and Union Strait.
- The importance of Nose Lake and Contwoyto Lake for summering Bathurst caribou.
- The use of eskers and other elevated landforms by caribou during summer for ease of movement and relief from insects.
- The use of wet foraging locations during post-calving, including areas with cotton grass, as important forage for lactating females and newly weaned calves.
- The use of lakeshores as travel corridors and for insect relief.
- Land users provided insights on grizzly bear behaviour and habitat use and directed the installation of hair-capture posts in the best possible locations to attract grizzly bears.
- Muskox were noted as an important resource species and were evaluated as a VEC.
- For birds, IQ included observations of the earlier migration of the snow bunting (*Plectrophenax nivalis)* and of large-bodied birds, such as the tundra swan and geese, and identification of ravens (*Corvus corvax*) and ptarmigan as non-migratory, resident birds. Examples of detailed observations of bird habitat use include frequent foraging on berries by geese, nesting of waterbirds on mid-stream islands and of geese and some ducks on cliffs, and observations of higher densities of nesting waterbirds in large wetlands. Inuit TK also included the identification of regularly used staging sites by waterbirds as areas that become ice-free earlier than other areas, such as fast-flowing rivers.
- Cliff nesting habitat identified by Inuit in the wildlife RSA includes areas west of Goose Property on the northern shores of Beechey Lake, near Kingaok, as well as on the eastern

shores of Bathurst Inlet near Omingmaktok. Inuit also stated that ground-nesting raptors prefer areas around wetlands or non-cliff areas as they hunt mainly small rodents. This knowledge was used to prioritize areas to search for raptor nests during baseline studies.

- Important habitats for muskox, grizzly bear, moose, and wolves (*Canis lupus*) in the Back River Mine area.
- Historic harvesting areas for waterfowl, ringed seal, and fish at lakes and on Bathurst Inlet.

Community perspectives, IQ, and TK were considered in the design of the Back River Mine, following the mitigation hierarchy, to avoid important habitats for wildlife and avoid unwanted effects on wildlife populations identified as important to Inuit, including:

- Using a WIR in lieu of an all-season road to reduce disruption of movement for caribou;
- Designing the WIR to avoid a valley east of Bathurst Inlet identified by the KIA as an important area for overwintering moose;
- Designing the WIR to avoid the mouth of the Western River, an area identified as important for wildlife through IQ and TK;
- Designing the on-ice airstrip at the MLA to be constructed before the ringed seal pupping period to avoid effects on seal lairs;
- Removing the George Camp from the Project Description to reduce interactions between the mine and Bathurst caribou; and
- Designing roads and maintaining the WIR to allow caribou to easily cross.

Community perspectives, IQ, and TK were considered in the evaluation of mine effects in the FEIS and addressed through management actions in the WMMP Plan, including:

- Evaluating habitat loss and disturbance for passing caribou and muskox;
- Evaluating whether grizzly bear and wolverine would be attracted to mine camps;
- Evaluating whether on-ice activities would disturb ringed seals;
- Evaluating whether the WIR would impede caribou movement.

The WMMP Plan was designed to include community perspectives, IQ, and TK, through (Sabina 2023a):

- The WMMP Plan introduction states: “Sabina is committed to considering and incorporating traditional knowledge into the Plan on an ongoing basis. The incorporation of traditional knowledge will occur throughout all stages of the Plan, including identification of mitigation measures, monitoring study design, data collection, and follow-up programs to obtain feedback.”
- The Caribou Technical Advisory Group (CTAG) is composed of B2Gold Nunavut, along with the KIA and Government of Nunavut (GN). The KIA has an ongoing opportunity to provide Inuit perspectives on mitigation and management for the mine, which is then incorporated into the Plan.
- The objective of the IEAC is to liaise with Inuit Elders who have experience in the mine area on wildlife, fisheries, and other environmental features. Inuit Elders will review mitigation and results of monitoring and provide insights that can be incorporated into existing management and monitoring programs.

- Habitat areas identified as important by community members, land users and TK formed the basis of wildlife habitat maps used for designing the WMMP Plan and locations for wildlife studies, including the trail camera program, monitoring for bears, waterfowl, ringed seals, and seabirds.
- Concerns raised by communities have been incorporated into mitigation programs, including avoiding wildlife with helicopters, stopping vehicles when wildlife are on the road, and halting mining activities if caribou shift their calving ground to overlap the site.
- Concerns raised by communities have been included in monitoring programs, including behaviour monitoring for caribou, monitoring whether caribou avoid the mine, and monitoring whether bears and wolverine are attracted to the mine camps.
- Communities raised concerns about keeping the environment clean, so wildlife can stay healthy. This has led to no littering policies, requirements surrounding reporting and cleaning up spills, and contributed to other monitoring programs reported separately, including for: water quality, water flow, dust, vegetation, toxicology, and fish.

Moving forward, relevant community perspectives, IQ, and TK will continue to be tracked through annual WMMP reports and inform the content, results, and management actions associated with B2Gold Nunavut's monitoring program. B2Gold Nunavut will also continue to address comments raised about its monitoring programs directly with community members where appropriate.

No new IQ or TK was collected in 2023.

1.2 THE WILDLIFE MITIGATION AND MONITORING PROGRAM PLAN

This document reports the results of the wildlife mitigation and monitoring program during construction, as described in the WMMP Plan (Sabina 2023a).

The WMMP Plan describes the mitigation and management activities conducted by B2Gold Nunavut to keep wildlife and wildlife habitat safe by mitigating potential impacts of the project. The WMMP Plan also includes a description of two types of mine monitoring activities: 1) monitoring used to direct management activities, and 2) monitoring of mine effects to confirm impact predictions made in the FEIS.

The WMMP Plan was included in the FEIS and was updated several times following discussions with regulators including the KIA, GN DOE, and Government of Northwest Territories Department of Environment and Natural Resources (GNWT ENR).

During 2023, the WMMP Plan was updated to Version 12 (the current plan; Sabina 2023a) to include commitments made by B2Gold Nunavut in response to comments and suggestions made by the KIA and due to the addition of windfarm-related mitigation and monitoring (not applicable to the Construction WMMP Report). The WMMP Plan will be updated as needed during the life of the mine in cooperation with the KIA, GN, Government of Northwest Territories (GNWT), and community members and groups.

NIRB Project Condition 51 describes a collaborative CTAG that reviews and provides comments on the WMMP Plan. The CTAG is composed of representatives from B2Gold Nunavut, the KIA, the GN DOE and other experts requested by the representatives to address particular issues. In addition to the WMMP Plan, B2Gold Nunavut has also produced detailed memos to discuss particular aspects

of management with the CTAG. B2Gold Nunavut has also produced detailed Standard Operating Procedures (SOPs) to operationalize aspects of the WMMP Plan, the SOPs communicate requirements to subcontractors such as shipping and aircraft companies, as well as staff on site.

1.2.1 NIRB CONDITIONS

The NIRB Project Certificate (No. 007) includes 28 Conditions for wildlife (NIRB 2017). Compliance with these Conditions is described in the 2023 NIRB Compliance Report and summarized in Appendix A.

1.2.2 MONITORING IN 2023

The Back River Mine started construction in 2023. Therefore, this is the first year the WMMP Report is no longer a pre-construction document. Associated mitigation and monitoring that occurred in 2023 during the first year of construction are outlined in Table 1.2-1 and Appendix B.

TABLE 1.2-1 WILDLIFE MONITORING IN 2023

Monitoring Objective and Method	2023 – Back River Mine Construction
Mine Infrastructure Development and Activities	
a. Habitat Loss - GIS analysis of footprint area	Section 2.1
b. Traffic Monitoring	Section 2.2
c. Winter Ice Road Mitigation and Monitoring	Section 2.3
d. Helicopter and Fixed Wing Aircraft Monitoring	Section 2.4
e. Blasting Mitigation and Monitoring	Section 2.5
f. Camp and Waste Management and Monitoring	Section 2.6
g. Building and Skirting Inspections	Section 2.7
VEC and Other Species Monitoring and Mitigation	
h. Caribou	Section 3
i. Muskox	Section 4
j. Grizzly Bear	Section 5
k. Wolverine	Section 5
l. Migratory Upland Breeding Birds	Section 6
m. Migratory Waterbirds	Section 6
n. Marine Birds	Section 6
o. Raptors	Section 7
p. Marine Mammals	Section 8

2. HABITAT LOSS AND SITE ACTIVITY MONITORING

2.1 HABITAT LOSS

Direct loss of wildlife habitat may occur through site clearing, infrastructure construction, and facility expansion. Habitat loss is evaluated as the direct loss of vegetation communities due to the mine footprint.

The WMMP Plan includes monitoring and reporting of the area of habitat loss in each year of construction and operation of the mine (Sabina 2023a). Habitat loss is reported here to provide a measure of habitat loss due to exploration and pre-construction activities prior to 2023, and due to construction activities in 2023.

2.1.1 FEIS PREDICTIONS

The FEIS described the wildlife habitat that will be lost within a permitted Project Development Area (PDA), composed of the mine site footprint and a 1 to 1.5 km buffer. This larger PDA allowed for future development and operational flexibility. Infrastructure construction was predicted to result in the reduction of existing wildlife habitat (Table 2.1-1). Habitat loss was predicted to be a not significant residual effect and the magnitude was classified as low for all wildlife VECs. The geographic extent of habitat loss was the PDA for all wildlife VECs.

TABLE 2.1-1 FEIS PREDICTIONS OF HABITAT LOSS FOR WILDLIFE VECS

Species	Season or Habitat Type	FEIS Predicted Habitat Loss		
		Total Combined Area (ha)	MLA PDA (ha)	Goose PDA (ha)
Caribou (Beverly Herd)	Summer	5,389	542	4,847
	Fall	4,592	532	4,060
	Winter[1]	3,546	208	3,338
Muskox	Summer/Fall	2,302	491	1,811
	Winter/Early Spring	882	29	853
Grizzly Bear	Spring	4,324	296	4,029
	Summer	4,545	616	3,929
	Fall	4,032	516	3,517
	Denning	23	23	0
Wolverine	Denning	2,866	299	2,567
Wolf	Denning	67	37	31
Upland Breeding Birds	Dry upland/Moist-Wet Lowland	4,905	532	4,372
Waterbirds	Waterbodies/Wetlands	2,489	337	2,152
Raptors	Cliff-nesting/Foraging habitat	634	5	629
	Ground-nesting	2,806	363	2,443

[1] Caribou winter habitat loss was not assessed in the FEIS. In 2020, the KIA requested that caribou winter habitat loss be included in the annual WMMP report; therefore, winter habitat loss was calculated in 2021 and is included in all WMMP Reports moving forward.

2.1.2 METHODS

2.1.2.1 INFRASTRUCTURE DEVELOPMENT

The amount of habitat loss is expressed as a proportion of the PDA. The total area constructed in 2023 was calculated via on-site surveying and remote sensing and compared to the total area of the PDA using GIS analysis.

2.1.2.2 HABITAT LOSS

Habitat loss was calculated by comparing the as-built mine footprint with existing habitat suitability mapping for specific focal species using GIS to verify predicted effects of the mine. Species monitored for habitat loss include:

- caribou (summer, fall, and winter);
- muskox (summer/fall and winter/early spring);
- grizzly bear (spring, summer, fall, and denning);
- wolverine (denning);
- wolf (denning);
- upland breeding birds (dry upland/moist-wet lowland);
- waterbirds (waterbodies/wetlands); and
- raptors (cliff-nesting including a 1 km foraging buffer, and ground-nesting).

Habitat suitability models were developed for the FEIS using a combination of ecosystem mapping and field surveys for model validation. Models consider species life history and seasonal patterns.

Annual habitat loss was calculated as the difference between the current year's footprint and the existing footprint from previous years, while cumulative habitat loss was calculated as the difference between the current year's footprint and the pre-construction state.

2.1.3 RESULTS AND DISCUSSION

2.1.3.1 INFRASTRUCTURE DEVELOPMENT

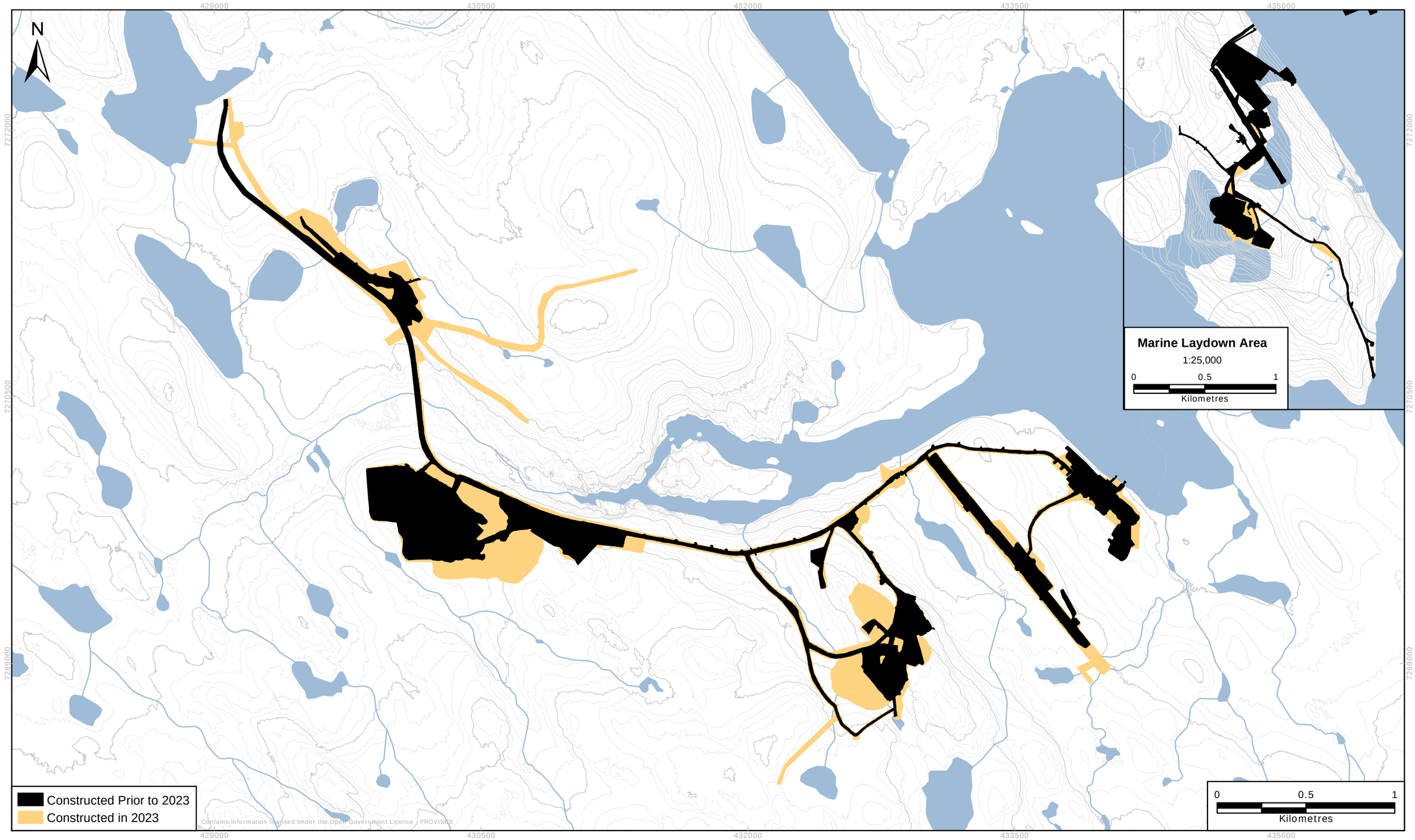
In 2023, 76 hectare (ha) were constructed at the Goose site and 4 ha were constructed at the MLA. Collectively, the mine footprint covers 201 ha to date (Table 2.1-2; Figure 2.1-1).

TABLE 2.1-2 FOOTPRINT DEVELOPMENT WITHIN THE PROJECT DEVELOPMENT AREAS OF 2023

Project Area	Pre-2023 (ha)[1]	2023 (ha)	Total (ha)
Goose site	89	76	165
MLA	32	4	36
Total	121	80	201

[1] Pre-2023 values have been adjusted due to a small error relating to a road alignment in previously reported footprints, and as such may have changed slightly as compared to the previous annual report. The as-built Project footprint was resurveyed in 2023 to correct for this error, in addition to including new development.

FIGURE 2.1-1 INFRASTRUCTURE DEVELOPMENT AT THE BACK RIVER MINE AS OF 2023



ERM

CLIENT: B2Gold
GIS NUMBER: BAC-23-604b

DATE: 03/12/2024

PROJECTION: NAD 1983 UTM Zone 13N
SCALE: 1:20,000 when printed at 11x17

The Goose PDA is approximately 5,427 ha; as of 2023, 165 ha of the Goose PDA has been constructed (3% of the Goose PDA).

The MLA PDA is approximately 653 ha; as of 2023, 36 ha of the MLA PDA has been constructed (5.5% of the total MLA PDA).

2.1.3.2 HABITAT LOSS

The Back River FEIS (2015) assessed the impacts of predicted habitat loss on VEC species or group. Table 2.1-3 summarizes the amount of habitat lost for each wildlife species as of 2023.

Among each of the mammalian VECs, for which habitat loss is evaluated relative to the RSA, between 1.5% and 8.7% of available suitable habitat within the RSA was lost due to the mine. No loss of special landscape features designated as potential rare plant habitat occurred.

2.1.3.3 DISCUSSION

The Back River FEIS assessed the impacts of predicted habitat loss on all VEC species or group. The realized habitat loss to date is 3.3% of the predicted habitat loss within the Goose and MLA PDAs combined (6,080 ha).

The magnitude of predicted habitat loss in the FEIS was classified as low for caribou, grizzly bear, wolverine, grey wolf, muskox, upland breeding birds, waterbirds, and raptors. The predictions of the Back River FEIS on the VECs remain valid with respect to the mine footprint.

Previous studies have suggested a potential decrease in species richness and abundance for birds and mammals at critical threshold levels of 40% to 90% loss of suitable habitat (Andren 1994; Fahrig 1997). Currently, the levels of disturbed suitable habitat for mammalian VECs is between 2.4% to 8.7% of the suitable habitat within the RSA, and for bird VECs is between 1.5% to 6% of the Local Study Area (LSA). These percentages are considered minimal, and well below critical threshold levels.

2.2 TRAFFIC MITIGATION AND MONITORING

The Back River Mine is committed to ensuring wildlife safe passage near site roads. Mitigation and management for disruption of movement and mortality of caribou and other wildlife focuses on management of the on-site roads, as per Section 7.1.6 of the WMMP Plan (Sabina 2023a). On-site roads include short stretches of all-season roads within the Goose PDA and MLA PDA that connect the various buildings, the pits, waste rock storage, and the Tailing Storage Facility (TSF).
Traffic monitoring on the WIR is described in Section 2.3.

2.2.1 FEIS PREDICTIONS

Traffic was evaluated in the FEIS for its potential to pose a hazard to wildlife crossing roads or due to noise. Mitigation includes: conservative speed limits, road signage, and employee training for wildlife avoidance. Disruption of movement due to on-site traffic was predicted to be non-residual for all wildlife VECs in the FEIS.

TABLE 2.1-3 AREA OF SUITABLE HABITAT LOSS FOR WILDLIFE VECS, 2023

Species	Season or Habitat Type	FEIS Predicted Habitat Loss			2023 Habitat Loss			Cumulative Habitat Loss		
		Goose PDA (ha)	MLA PDA (ha)	Total Combined Area (ha)[1]	Goose PDA (ha)	MLA PDA (ha)	Total (ha)	Total Loss Before 2023 (ha)[3]	Cumulative Loss (ha)	Percent of Predicted Loss (%)
Caribou	Summer	4,847	542	5,389	76	3	79	116	196	3.6
	Fall	4,060	532	4,592	72	4	76	118	193	4.2
	Winter[4]	3,338	208	3,546	60	2	62	105	167	4.7
Muskox	Summer/ Fall	1,811	491	2,302	17	2	19	36	56	2.4
	Winter/Early Spring	853	29	882	10	1	11	16	27	3.1
Grizzly Bear	Spring	4,029	296	4,324	71	2	73	109	182	4.2
	Summer	3,929	616	4,545	64	3	67	101	168	3.7
	Fall	3,517	516	4,032	64	3	67	101	168	4.2
	Denning	0	23	23	0	0	0	1	2	8.7
Wolverine	Denning	2,567	299	2,866	53	2	55	75	130	4.5
Wolf	Denning	31	37	67	0	0	0	1	2	3.0
Upland Breeding Birds	Dry upland/Moist-Wet Lowland	4,372	532	4,905	75	4	78	120	198	4.0
Waterbirds	Waterbodies/Wetlands	2,152	337	2,489	16	1	17	29	46	1.8
Raptors	Cliff-nesting/Foraging habitat[2]	629	5	634	15	0	15	23	38	6.0
	Ground-nesting	2,443	363	2,806	13	1	14	29	43	1.5

[1] Potential Development Area without Winter Roads

[2] Suitable cliff-nesting habitat was defined as 1) areas within a 1 km radius from known raptor cliff nests, and 2) south-facing rock faces taller than 10 metre (m) and within 1 km of water. No cliffs were lost during construction. The area reported is within the 1 km buffer.

[3] Pre-2023 values have been adjusted due to a small error relating to a road alignment in previously reported footprints, and as such may have changed slightly as compared to the previous annual report. The as-built Project footprint was resurveyed in 2023 to correct for this error, in addition to including new development.

[4] Caribou winter habitat loss was not assessed in the FEIS. In 2020, the KIA requested that caribou winter habitat loss be included in the annual WMMP report; therefore, winter habitat loss was calculated in 2021 and is included in all WMMP Reports moving forward.

2.2.2 METHODS

Potential impacts of traffic on wildlife was tracked through a review of incident reports and reports of non-compliance events.

Vehicle traffic is managed to ensure caribou and other wildlife can travel safely through the area and to minimize vehicle-related wildlife mortality and injury. Vehicle traffic is conducted in accordance with the *Light and Heavy Vehicle Operation on Roads Pre-construction, Construction, and Operations SOP* (Sabina 2020a). This includes the following responsibilities of all drivers to mitigate effects of vehicle traffic on wildlife:

- Drivers must follow 60 km/hour speed limits (or lower) on all on-site roads.
- Wildlife have right-of-way on all roads.
- Drivers will report all wildlife observations to the Environment Department.
- Drivers will report any wildlife injury or mortality to the Environment Department.

If locations with repeated mortality events are identified, adaptive management will be implemented.

2.2.3 RESULTS AND DISCUSSION

Speed limits and vehicle traffic guidelines were presented to all staff during initial orientation to site, and reminders were provided by Health and Safety and Environment Department staff throughout the year. Email notifications were issued by the Environment Department to all site staff when mortalities of small wildlife occurred on roads, and messaging around the importance of following vehicle mitigation guidelines (as described in Section 2.2.2) was included in morning toolbox meetings across departments.

Three wildlife mortalities occurred along roads in 2023, including two arctic hares (*Lepus arcticus*) and one rock ptarmigan (*Lagopus muta*). No additional wildlife injuries occurred from wildlife-vehicle collisions in 2023. All mortality incidents were reported internally to Environment Department staff in accordance with the *Incidental Wildlife Observations SOP* (Sabina 2022a) as well as externally as required (see Section 9 for additional details).

Mitigation and monitoring measures in place by B2Gold Nunavut were effective at ensuring caribou and other wildlife can travel safely through the area, minimizing vehicle-related wildlife mortality and injury. No locations with multiple mortality events were recorded, therefore no additional mitigation was required in 2023.

2.3 WINTER ICE ROAD MITIGATION AND MONITORING

The Back River Mine is committed to ensuring wildlife safe passage near the WIR. Mitigation and management for disruption of movement of caribou and other wildlife focuses on management of the WIR, as per Section 7.1.6 of the WMMP Plan (Sabina 2023a). Monitoring along the WIR includes traffic volume monitoring, human activity monitoring, and snowbank monitoring. Monitoring for caribou along the WIR is presented in Section 3.3.

Traffic was evaluated in the FEIS for its potential to pose a hazard to wildlife crossing roads or due to noise. Mitigation includes: conservative speed limits, road signage, and employee training for

wildlife avoidance. The WMMP Plan also includes a Road Management Plan, which describes road safety, design, and monitoring practices.

Monitoring of human activity along the WIR was completed in accordance with Back River Mine's Project Certificate (No. 007) Condition 80 (NIRB 2017).

Monitoring snowbank height along the WIR was completed in accordance with Back River Mine's Project Certificate (No. 007) Condition 45 to mitigate disturbance to caribou migration and movement (NIRB 2017).

2.3.1 FEIS PREDICTIONS

The WIR from Goose PDA to the MLA PDA was anticipated in the FEIS to be active between December and April, with active hauling occurring in January through April. Traffic levels on the WIR were predicted in the FEIS to be approximately 1,900 one-way trucks over 100 days of WIR operation.

The winter range of Beverly caribou overlaps the southern wildlife RSA and approximately 0.01% of the winter range overlaps a portion of the WIR PDA, indicating that few caribou of the Beverly herd will occur in the RSA during the winter period when the winter road is active. Thus, it was predicted in the FEIS that there will be few caribou crossing the WIR. Combined with the vehicle mitigation, mortality from vehicle collisions and disruption of movement on the WIR was not anticipated to result in a residual effect in the FEIS.

The FEIS evaluated the potential effects of new access to the Back River Mine site along the WIR from the MLA and determined there was a negligible potential for increased access. To mitigate any potential effects, the WIR will be closed to the public.

2.3.2 METHODS

2.3.2.1 TRAFFIC MONITORING

Total volumes of traffic are recorded by on-site personnel for each load transiting the WIR, including totaling loads of freight and fuel. In 2023 records were not available to be summarized by month. This information will be recorded during the 2024 season for subsequent annual reporting.

Vehicle traffic is managed in accordance with the *Light and Heavy Vehicle Operation on Roads Pre-construction, Construction, and Operations SOP* (Sabina 2020a). This includes grouping trucks in convoys and additional mitigative measures should the WIR operate past April 15.

2.3.2.2 HUMAN ACTIVITY MONITORING

The WIR is restricted to mine site personnel only; therefore, measures are in place to ensure the WIR is not used by others, including closing the road to the public and controlling access to the road.

Human activity monitoring evaluates whether people other than site staff are using the WIR and whether measures to control access have been effective. All Back River Mine personnel working along the WIR are expected to report observations of people other than site staff occurring around or interacting with the WIR. Observations are reported to the Environment Department, including

location (Global Positioning System [GPS] coordinates), date, time, type of vehicle, number of people, reason for access (e.g., hunting, recreation, fishing), outcome of interaction with Back River Mine personnel, and any other descriptive information regarding the sighting.

Human activity along the WIR is recorded in accordance with, and using the datasheet provided in the *Human Use Monitoring SOP (*Sabina 2023b).

Should more than five groups of hunters be observed using the WIR, then enhanced management will be conducted to limit use of the WIR as outlined in Section 7.1.8 of the WMMP Plan (Sabina 2023a). If triggered, B2Gold Nunavut will liaise with the relevant Hunters and Trappers Organizations to discuss possible options for enhanced management to limit hunter use of the WIR.

2.3.2.3 SNOWBANK MONITORING

Snowbank depth was documented along the WIR by the on-site dedicated caribou monitors while driving the WIR daily using vehicle mounted video cameras. If snowbanks appeared too high (greater than 1 metre [m]), the on-site biologists would contact the WIR manager for immediate action to reduce snowbank height. Actions included the use of snowcats, bulldozers, and graders to maintain minimal height and slope of banks at the road edge.

2.3.3 RESULTS AND DISCUSSION

2.3.3.1 TRAFFIC MONITORING

The WIR operated over 33 days in 2023, between March 23 and April 24. A total of 807 loads (return trips) were hauled down the WIR during the operating period, with freight accounting for 654 of the loads (81%) and fuel accounting for 153 (19% of loads; Table 2.3-1). Therefore, 1,614 one-way trips were made during the 33-day operating period of the WIR, remaining below the predicted estimate of 1,900 one-way trips per year.

Table 2.3-1 TRAFFIC ALONG THE WINTER ICE ROAD, MARCH 23 TO APRIL 24, 2023

Type	Total Number of Loads/Return Trips
Freight	654
Fuel	153
Total	807

A traffic rate of 20 vehicles/h has been shown to likely cause a low crossing rate for large caribou groups trying to cross a pipeline road in Alaska (Smith and Cameron 1985). More recent studies suggest that the relative probability of crossing the road declines at a lower traffic rate of approximately 12.5 vehicles/h (Smith and Johnson 2023). In 2023, between 16 and 24 vehicles/day used the WIR. Therefore, the WIR had a traffic rate of approximately two or three vehicles/h, remaining below the threshold of disturbance. In addition, B2Gold Nunavut safety rules required trucks to travel in convoys of at least three trucks at a time, further reducing the frequency of vehicles/h (Photo 2.3-1).

Photo 2.3-1 Vehicle convoy on the Winter Ice Road, April 22 2023

Mitigation and monitoring in place by B2Gold Nunavut for the WIR was effective at reducing traffic levels along the WIR. Traffic along the WIR remained below the threshold of 1,900 one-way trips per year and no additional mitigation was required in 2023.

2.3.3.2 HUMAN ACTIVITY MONITORING

During the 2023 WIR season, a total of three groups were observed by the Back River Mine staff on or near the WIR. At the end of March, permission to use the WIR was requested by a team of overland vehicles attempting to drive from Yellowknife to Resolute. Access was not granted and use of the WIR was not permitted.

On April 7, and again on April 11, a group of dogsled teams were seen traveling from Great Slave Lake to Bathurst Inlet near the WIR. On both occasions, the dogsled teams were not using the WIR itself and were noted up to 3km away. The third group observed near the WIR included a group of hunters, observed hunting along the WIR from April 21 to 24, 2023.

Mitigation and monitoring in place by B2Gold Nunavut for the WIR was effective at ensuring that only site personnel are using the road. One group of hunters and one dogsled team group were observed along the WIR in 2023, neither of which were using the road, and one group was denied access to use the WIR. Therefore, human activity near the WIR remained below the threshold of five groups and no additional mitigation was required in 2023.

2.3.3.3 SNOWBANK MONITORING

Bank heights along the WIR were actively managed to be as low as possible to allow easy passage by caribou, with many sections having negligible bank height or slope as compared to the road grade (Photo 2.3-2). Following snow or wind events, on-site biologists observed immediate actions by road maintenance equipment operators to reduce bank heights in all sections of the WIR. Snowcats, bulldozers, and graders were often maintaining minimal height and slope of banks at the road edge. Project management staff also consulted with the on-site biologists each day regarding priority areas to further reduce bank height to facilitate effective caribou passage across the WIR.

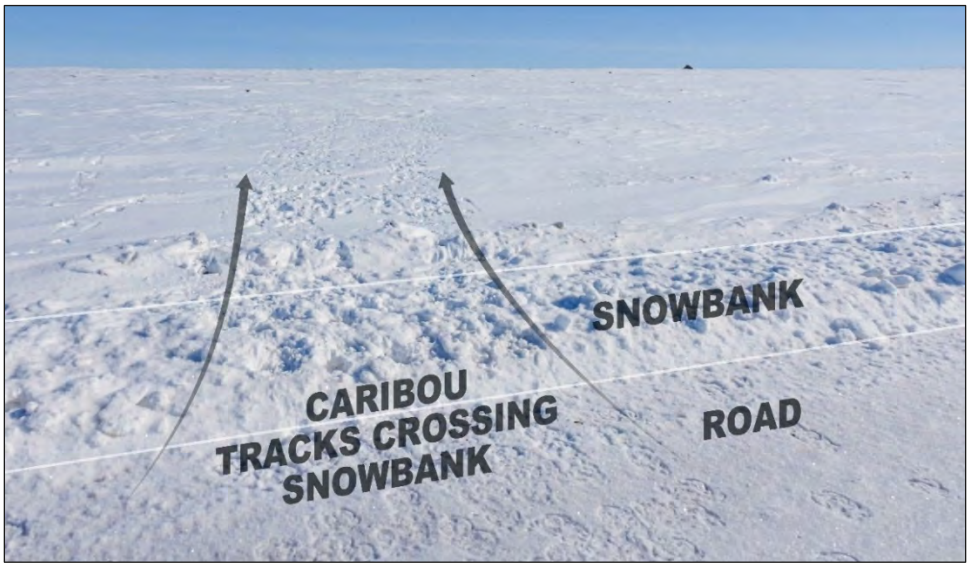


Photo 2.3-2 Caribou tracks crossing low snowbanks along the WIR

Mitigation and monitoring in place by B2Gold Nunavut for the WIR was effective at reducing snowbank height. Bank heights were actively managed to be as low as possible to allow easy passage by caribou, with many sections having negligible bank height or slope as compared to the road grade. Therefore, any banks greater than the trigger height of 1 m were flattened, and no additional mitigation was required in 2023.

2.4 AIRCRAFT MITIGATION AND MONITORING

Helicopters and fixed-wing aircraft currently operate at the Back River Mine. Helicopters make trips between the Goose and MLA areas, as well as taking supplies (e.g., drilling gear) and crews (field survey biologists) to other areas near the mine. Fixed-wing aircraft service crew and supplies movement in and out of the regional area.

Fixed wing and helicopter aircraft operation guidelines were developed and provided to pilots to guide aircraft operation at the Back River Mine. These guidelines met the Back River Mine's Project Certificate (No. 007) Conditions #60 and #61, to mitigate potential impacts to wildlife from aircraft operations (NIRB 2017).

Mitigation actions were applied to fixed-wing aircraft to limit disturbance to caribou and other wildlife, as described in Section 7.1.5.6 of the WMMP Plan (Sabina 2023a), including remaining above 610 m whenever caribou are encountered; completing a visual inspection for wildlife on the airstrip prior to aircraft landing; and suspending or delaying flights if caribou are observed near the airstrip.

Mitigation actions were applied to helicopters to limit disturbance to caribou and other wildlife, as described in Section 7.1.5.7 of the WMMP Plan (Sabina 2023a), including educating pilots on flying altitudes when caribou are present, and maintaining appropriate distances from caribou. These avoidance distances include the following:

- During calving, post-calving, and early summer (June 5 – July 31), large groups of caribou (more than 250) were avoided by 610 m vertically or 4 km horizontally.
- During calving, post-calving, and early summer (June 5 to July 31), helicopter pilots avoided groups of 25 or more caribou either vertically (610 m) or horizontally (2 km).
- At all other periods in the year caribou were avoided by 610 m vertically or 1 km horizontally.

2.4.1 FEIS PREDICTIONS

Helicopters and fixed wing aircrafts were evaluated in the FEIS for potential to pose a collision hazard to birds, and noise disturbance to wildlife. Mitigation includes: avoiding low level flying (under 610 m) where possible (fixed wing) or when caribou are observed in the immediate area (helicopters), pilot training, and aircraft operation guidelines.

2.4.2 METHODS

Helicopter and fixed-wing aircrafts operated in accordance with the flight procedures outlined in the *Fixed-Wing and Helicopter Operations SOP* (Sabina 2020b). This includes flight altitude and horizontal guidelines, avoidance of sensitive wildlife features, adjustments in procedures associated with the Caribou Management System, wildlife reporting procedures, and flight tracking. Additionally, visual inspections of the airstrip for wildlife were completed prior to aircraft landing, with suspending or delaying flights if caribou were observed near the airstrip.

To minimize disturbance to caribou, aircrafts are advised to maintain a minimum 610 m vertical flying altitude, except when landing or takeoff, as indicated by the WMMP Plan, and applies when caribou are observed within 1 km - 4 km horizontal distance from the aircraft, depending on time of year and caribou group size (as described above and in Section 7.1.5.7 of the WMMP Plan). Fixed-wing pilot logs, helicopter pilot wildlife reports, and helicopter GPS tracks were compared to this threshold to identify flights below a 610 m altitude during construction activities in 2023.

Fixed-wing flights were documented on pilot logs, indicating any instances (e.g., emergencies or poor weather conditions) where cruising altitude was lower than 610 m. Helicopter tracks were recorded using a GPS, which recorded the track, including the time, latitude, longitude, and altitude. Helicopter GPS tracks were mapped using GIS by totaling the sum distance flown by helicopters, as well as the sum distance flown at altitudes below 610 m for comparison.

Pilots recorded any wildlife observations during flights and reported them to the Environment Department. Information recorded includes location (GPS coordinates), date, time, species,

number observed, behaviour, and any other descriptive information regarding the sighting. In 2023 pilots reported no instances where changes to altitude or course were required to avoid groups of caribou, muskox, or other wildlife.

2.4.3 RESULTS AND DISCUSSION

Fixed Wing Aircraft

Fixed wing aircraft typically cruised at approximately 3,000 - 7,000 m, depending on whether or not they were pressurized. Descents and ascents to and from landing were conducted following standard procedures to maintain safe approach angles and minimum elevations. No fixed-wing pilots reported any emergencies or weather conditions which required low-level flight (below 610 m).

Prior to all aircraft take-off and landing at the airstrip, a survey for wildlife was conducted to ensure safe departure and/or arrival for aircrafts and for wildlife. No interactions between wildlife and fixed wing aircraft occurred.

Mitigation and monitoring measures in place by B2Gold Nunavut was effective at ensuring no interactions between wildlife and fixed-wing aircraft occurred. No fixed-wing aircrafts operated below 610 m, except when landing or takeoff. Therefore, no additional mitigation was required in 2023.

Helicopters

Helicopter pilots did not report any wildlife sightings in 2023, therefore no management actions were triggered, and helicopter use was in compliance with the WMMP Plan and NIRB Conditions.

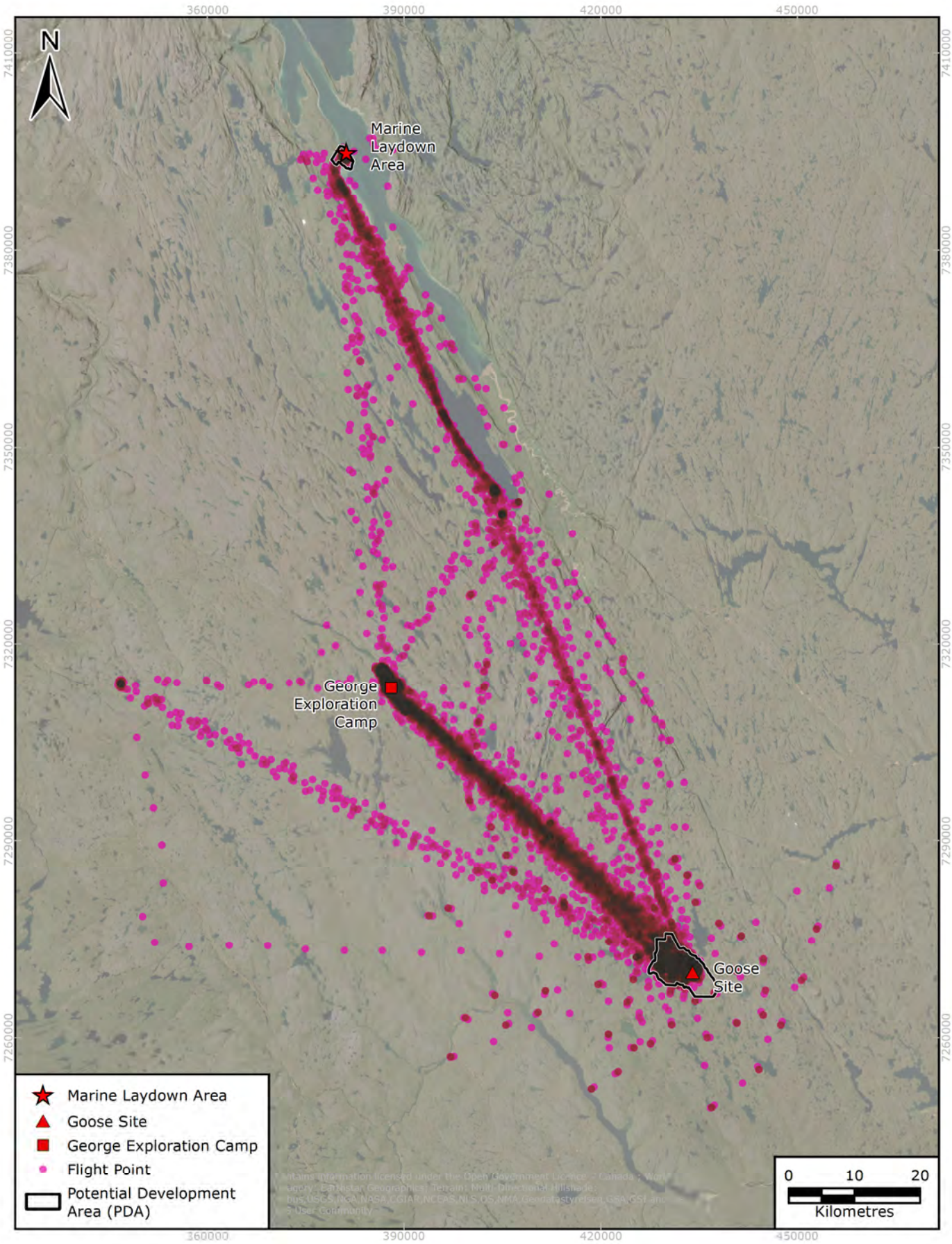
Pilots avoided flying close to the ground even when wildlife were absent, except when doing short-distance drill moves, approaching/leaving landing sites, or when constrained by weather. The total distance flown by helicopters at Back River in 2023 was 53,658.34 Km.

Of this total distance, 27.1% was flown during drill moves within 4 km of the mine, and most of these drill moves were at low elevation, below 610 m. Pilots checked for caribou before proceeding and drill moves were authorized only if caribou were not present. Figure 2.4-1 shows that the highest density of flights were localized to the area surrounding the Goose site where drilling activities occurred. Each drill move requires approximately 20 return flights. Drill moves were only conducted when caribou were not within the disturbance buffers described above and in the WMMP Plan.

Other helicopter activities included shuttle flights between the Goose mine site, the MLA and/or the George Exploration camp. During these flights, pilots evaluated whether caribou were present and avoided caribou as needed. No caribou were observed and no avoidance was necessary.

Figure 2.4-1 shows the frequency of helicopter flights at the Back River Mine between June and October, 2023, with each point denoting the position of a helicopter every 3 minutes.

FIGURE 2.4-1 HELICOPTER FLIGHTS, JUNE TO OCTOBER, 2023



ERM

CLIENT: B2Gold
GIS NUMBER: BAC-23-608

DATE: 19 March 2024

PROJECTION: NAD 1983 UTM Zone 13N
SCALE: 1:800,000 when printed at 8.5x11

Mitigation and monitoring measures in place by B2Gold Nunavut were effective at avoiding interactions between wildlife and helicopters. Helicopters were required to fly below 610 m altitude, as helicopter operations at the Back River Mine predominantly consist of external load slinging or short distance flights which are operationally constrained to lower altitudes. No additional mitigation was implemented in 2023, and no interactions between wildlife and helicopters were reported. In addition, between June 5 and July 31, there were only five incidental sightings of caribou from the ground, four of which were of single animals, greater than 2 km away from the Goose site, and one of a single animal passing Goose camp (Section 3.9). As no groups of caribou or muskox were reported by helicopter pilots in 2023, supported by the lack of incidental sightings of caribou in June and July, flights below 610 m altitude were in compliance with the WMMP Plan (Section 7.5.1.7) and Project Certificate (No .007) Condition #60.

2.5 BLASTING MITIGATION AND MONITORING

NIRB Conditions #41, #43, and #44 require B2Gold Nunavut to manage blasting activities to avoid disturbance to caribou and other wildlife.

Prior to any blasting in 2023, surveys for wildlife were conducted by B2Gold Nunavut personnel to identify if wildlife were present. If animals were within a “trigger distance” of quarries, then certain mitigations applied. Trigger distances and management actions for quarries are summarized in Table 2.5-1.

TABLE 2.5-1 MANAGEMENT OF BLASTING WHEN WILDLIFE ARE OBSERVED

Species	Timing Window	Number of Animals	Distance	Notes
Caribou	Calving (June 5-15)	≥10 breeding female	≤2.5 km	Stop blasting until animals leave.
Caribou	All year	Group of ≥25 animals	≤2.5 km	Stop blasting until animals leave.
Caribou	All year	1-25 animals	≤2.5 km	Conduct behavioural monitoring. Blasting can proceed.
Caribou, muskox, grizzly bear or wolverine	All year	≥1 animal	Blast safety distance (~500 m)[1]	If ≥1 animal is observed in the blast safety distance, then delay the blast until animals leave.

[1] The blast safety distance is often 500 m or greater but is determined on a case-by-case basis by the blasting manager.

2.5.1 FEIS PREDICTIONS

Blasting was evaluated in the FEIS for its potential to pose a hazard to wildlife due to blast rock or noise disturbance. Disturbance due to instantaneous blasting noise was predicted to remain within the PDAs. To reduce the possibility of disturbing caribou (and other wildlife) due to blasting activities, pre-blasting surveys are completed and species-specific trigger distances and mitigative measures are applied (Table 2.5-1).

2.5.2 METHODS

Blasting at various sites (Table 2.5-2) occurred around the Goose PDA in 2023. Prior to blasts, B2Gold Nunavut personnel conducted a height of land survey of the surrounding tundra for caribou or other wildlife (muskox, grizzly bear, or wolverine). If any caribou or wildlife were observed, management actions described in Table 2.5-1 were followed.

Pre-blast surveys were conducted by two observers scanning all directions around the blasting location from the nearest height of land site or nearest location with good visibility. Survey details (i.e., date, time, location) and observations were recorded. If any wildlife were observed, the Environment Manager and Blasting Manager were alerted and the appropriate mitigation implemented. Surveys for wildlife prior to blasting were conducted in accordance with the *Wildlife Monitoring and Mitigation for Blasting Pre-construction, Construction and Operations SOP* (Sabina 2022b).

2.5.3 RESULTS AND DISCUSSION

Blasting occurred at the Goose site during a total of 90 days between January and December 2023, with 109 individual blast events being completed. Blasting was completed at seven locations, with the number of days where blasting occurred at each location summarized in Table 2.5-2. In total, pre-blast surveys were conducted on 62 days when blasting occurred. Pre-blast surveys were also conducted on eight days where no blasting was reported.

There were five days where blasting was completed at more than one location; one day in April when blasts were completed at both Echo Pit and Gander, and four days in November, when blasts were completed at both Echo Pit and Tank Pad. On days where blast occurred at more than one location, pre-blast surveys were completed for both locations, except for the April blasting, where a survey was only completed for Echo Pit.

During pre-blast surveys, one caribou was recorded lingering just outside of the 500 m blast radius at Echo Pit on July 22, 2023. The caribou was monitored to ensure it did not enter the blast radius. No additional mitigative measures were required. No other mammals were observed during pre-blast surveys in 2023.

There were 29 days where pre-blasting surveys were not documented for locations where blasting occurring. The missing documentation of these surveys does not confirm that they were not completed, as site personnel are required to incidentally report sightings of wildlife, particularly during blasting. Pre-blast surveys were not documented in January (4 days), February (4 days), March (2 days), April (1 day), July (1 day), August (4 days), September (3 days), October (3 days), November (4 days), and December (3 days). Surveys were documented for all blasting days in May and June. No caribou incidental observations or collar data points were recorded within 500 m of Goose on blasting days where pre-blasting surveys were not documented.

TABLE 2.5-2 SUMMARY OF BLASTING ACTIVITY AT THE GOOSE SITE, JANUARY TO DECEMBER, 2023

Month	Spillway		Key Trench		Echo Pit		Gander		Vent Raise		Plant		Tank Pad		Total Unique Blasting Days [1]
	Blast Days	Survey Days	Blast Days	Survey Days	Blast Days	Survey Days	Blast Days	Survey Days	Blast Days	Survey Days	Blast Days	Survey Days	Blast Days	Survey Days	
January	4	2	3	1	-	-	-	-	-	-	-	-	-	-	7
February	-	-	5	1	-	-	-	-	-	-	-	-	-	-	5
March	-	-	1	1	5	3	-	-	-	-	-	-	-	-	6
April	-	-	-	-	7	7	3	2	-	-	-	-	-	-	9
May	-	-	-	-	9	9	-	-	-	-	-	-	-	-	9
June	-	-	-	-	2	2	-	-	-	-	-	-	-	-	2
July	-	-	-	-	5	4	-	-	-	-	-	-	-	-	5
August	-	-	-	-	3	0	-	-	1	0	2	2	-	-	6
September	-	-	-	-	-	-	-	-	-	-	7	4	-	-	7
October	-	-	-	-	1	0	-	-	-	-	-	-	11	9	12
November	-	-	-	-	9	6	-	-	-	-	-	-	9	8	14
December	-	-	-	-	8	5	-	-	-	-	-	-	-	-	8
Total	***4***	***2***	***9***	***3***	***49***	***36***	***3***	***2***	***1***	***0***	***9***	***6***	***20***	***17***	***90***

Note:
Pre-blasting survey data sheets were not received for 29 days where blasting occurred.
[1] The total number of unique blasting days in 2023 was 90 days. However, due to blasts being completed at both Echo Pit and Gander on one day in April 2023 and at both Echo Pit and Tank Pad on four days in November 2023, number of blast days at each site totals 95.

During the days where blasting occurred but no surveys were documented, the closest caribou collar point to the Goose site was approximately 6 km away. In addition, there were only two incidental sightings of caribou during blasting days without recorded surveys: there was an incidental sighting of caribou on April 18 approximately 2 km south of the Goose PDA, and an incidental sighting of two caribou on September 13, at an unknown distance from Goose. It is unlikely that these two caribou observed on September 13 were within the 500 m buffer, as the sighting was not recorded by blasting crew, and they are trained to halt blasting if wildlife are incidentally observed. Additionally, no incidental observations of muskox, grizzly bear, or wolverine were recorded on these days. Blasting crews are trained to halt blasting if caribou or other wildlife are incidentally observed.

Pre-blasting surveys and species-specific trigger distances (Table 2.5-1) were implemented at the Project to address the potential hazard blasting may pose to wildlife, as assessed in the FEIS. No animals were reported within the designated trigger distances around the blast site in 2023. As a result, no additional mitigative measure were required in 2023. B2Gold Nunavut will continue to improve data collection and survey effort during blasting in 2024.

2.6 CAMP AND WASTE MANAGEMENT AND MONITORING

NIRB Condition #48 requires B2Gold Nunavut to limit the attractiveness of the site to wildlife. The WMMP Plan includes design mitigation and management to reduce the attractiveness of the Goose and MLA camps and infrastructure to wildlife (WMMP Plan Section 9.2.1.4; Sabina 2023a). To accomplish this, B2Gold Nunavut conducted the following:

- Managed the camp to reduce attractiveness;
- Reviewed waste management during routine inspections; and
- Conducted monitoring for grizzly bears and wolverine in the vicinity of the camp.

Section 9.1.7 of the WMMP Plan lists the mitigation implemented by B2Gold Nunavut (Sabina 2023a). These include storing wastes properly, conducting regular road and camp cleanups, removing waste from collection sites regularly and incinerated, and monitoring for wildlife activity near waste infrastructure.

2.6.1 FEIS PREDICTIONS

The Back River FEIS predicted a not significant and low magnitude residual effect of attraction at a geographic extent of the mine site footprint for wildlife (grizzly bears and wolverine).

2.6.2 METHODS

Waste management monitoring includes regular inspections of all waste management areas (WMA's) at the Back River Mine by the Environment Department, which in 2023 included:

- Goose Upper Camp WMA;
- Goose Lower Camp WMA;
- Goose Construction WMA;
- Goose Drilling WMA;

- Goose Underground WMA; and
- MLA WMA.

Monitoring was completed through waste inventories, waste facility surveys, and waste management audits. Waste and camp monitoring inspections included assessment of:

- Proper storage of wastes;
- Proper segregation of wastes;
- Proper waste containment (including secondary containment);
- Proper waste disposal (including incineration or backhaul);
- Signs of wildlife in and around WMA's; and,
- Any wildlife observed in the area of WMA's.

Incidental observations by Environment Department staff, including of misdirected waste and wildlife at waste facilities, were used to support monitoring through identification of improvements to waste management education and processes.

If deficiencies were noted during monitoring inspections or incidental observations, a review of waste management activities and adaptive mitigation was triggered. Following implementation of additional measures to resolve the noted deficiency, the WMA or area requiring improvements was resurveyed.

Waste management and monitoring is conducted in accordance with the *Waste Management Pre-construction, Construction, and Operations SOP* (Sabina 2020c). Additionally, this SOP includes preventative measures, safe waste storage, management, disposal, and monitoring procedures for site personnel.

2.6.3 RESULTS AND DISCUSSION

Seven inspections of WMA's were completed over three days in 2023 (Table 2.6-1). B2Gold Nunavut was in compliance with guidance in the *Waste Management Pre-construction, Construction, and Operations SOP* (Sabina 2020c) in 2023.

TABLE 2.6-1 INSPECTIONS OF WASTE MANAGEMENT AREAS IN 2023

Date of Inspection	Location	Proper Waste Storage	Proper Waste Disposal	Signs of Wildlife	Actions
November 6	Incinerator	No	Yes	Yes[1]	Reported to site services
November 6	Maintenance Laydown WMA	No	Yes	No	Reported to maintenance
November 6	Drilling WMA	No	Yes	No	Reported to Major Drilling
November 26	Drilling WMA	Yes	Yes	No	Reported to appropriate managers
November 26	Construction WMA	No	No	No	Reported to appropriate managers

Date of Inspection	Location	Proper Waste Storage	Proper Waste Disposal	Signs of Wildlife	Actions
December 30	Construction WMA	No	Yes	No	-
December 30	UG Yard	No	Yes	No	Reported to appropriate managers

[1]Although wildlife signs were observed (i.e., hare tracks), no interactions with waste facilities were evident.

Findings from inspections were relayed to the appropriate departmental manager and site services, including instructions for improvements to waste management to reduce potential for wildlife attraction. Actions implemented as a result of regular inspections in 2023 included:

- Ensuring all wastes with runoff potential are within secondary containment structures;
- Installation of lids on all waste storage containers to reduce potential water accumulation from snow melt;
- Revision of posters to guide proper segregation and sorting of waste prior to disposal; and
- Ensuring containers in contact with oily waste materials are cleaned frequently to reduce accumulation of any drippings.

During regular inspections of WMA's, wildlife sightings or wildlife sign were recorded. In 2023 no grizzly bear or wolverine signs were observed in or around WMA's at the Goose site or MLA during inspections. Incidental detections of these species in other areas are summarized in Section 5.4 and 5.6.

Photos of the Goose and MLA camps are provided in Photos 2.6-1 through 2.6-4 to illustrate that the camps were kept clean and free of attractants for wildlife.

Photo 2.6-1 Goose camp kept free of attractants, 2023

Photo 2.6-2 Goose Camp Kept Free of Attractants, 2023

Photo 2.6-3 MLA Camp area Kept free of attractants, 2023

Photo 2.6-4 MLA Kept free of attractants, 2023

Following multiple attraction events and incidental sightings of wolverine to the incinerator area in January 2023 leading to destruction of two individuals (see Section 9), adaptive management was applied to assess the source of attraction, remedy the issue, and monitor the success of the management actions applied. In this case the corrective actions implemented to prevent further attraction of wildlife included incineration of waste as soon as possible after collection and locking (rather than just closing) the doors to the incinerator when personnel are away from the building. These mitigations appeared to be successful in deterring further access by wolverine or other wildlife to the incinerator area.

Frequency of WMA inspections increased as 2023 progressed, and regular inspection surveys are planned throughout the year for 2024. Mitigation and monitoring measures in place by B2Gold Nunavut is effective at reducing the attractiveness of the site to wildlife and will continue to be adaptively managed moving forward. In addition, weekly surveys of WMAs will be completed in 2024 to ensure year-round monitoring of camp and waste management.

2.7 BUILDING AND SKIRTING INSPECTION

Building and skirting monitoring is outlined in Section 9.2.1.3 of the WMMP Plan (Sabina 2023a). The objective of skirting and building monitoring is to evaluate whether mitigation measures to exclude bears and wolverine or other furbearers from buildings and other infrastructure has been successful and to trigger appropriate management if needed.

2.7.1 FEIS PREDICTIONS

The Back River FEIS predicted a not significant and low magnitude residual effect of attraction at a geographic extent of the mine site footprint for wildlife (grizzly bears and wolverine) after implementation of mitigation measures such as barriers/skirting on buildings and infrastructure to limit the attractiveness of the site.

2.7.2 METHODS

Environmental staff monitor skirting and fencing on a regular basis to evaluate whether mitigation measures to exclude wildlife (specifically bears and wolverine/furbearers) from buildings and other infrastructure has been successful, and to trigger appropriate management actions should changes to mitigation be necessary.

During inspections, monitors walk the perimeter of the skirting/fencing looking for damage, downed fencing, animals, or animal sign inside the fence or building footprint. General inspection information recorded for each survey included date, time, and location. Where locations with damage to fence or skirting has been identified, the type of damage, type of material damaged, any animals or animal sign observed in the immediate area, potential causes of damage, and photos of the damaged area or any wildlife sign are recorded. Any damage to fences or skirting is reported to the Environment Department following inspection and communicated to the department responsible for the building and site services for repair.

Inspections were conducted in accordance with and using the inspection data sheet provided in the *Building Skirting and Fencing Inspection SOP* (Sabina 2022c).

2.7.3 RESULTS AND DISCUSSION

During the 2023 reporting period, a total of 55 building and skirting inspections were completed over six sampling days (Table 2.7-1). Ten reports of damage or holes to skirting were reported to site services for repair (Table 2.7-1). Deficiencies were recorded upon completion of each inspection and communicated to the responsible manager for corrective action. Common deficiencies recorded in 2023 included missing or damaged skirting and sea-can doors left open.

TABLE 2.7-1 INSPECTIONS OF BUILDLING AND SKIRTINGS IN 2023

Date of Inspection	Location(s)	Number of Inspections		
		Total	Building or Skirting Damage Evident	Signs of Wildlife*
March 29	MLA mechanic shop, office, kitchen/accommodations	3	2	1
September 17	Upper camp, Goose forward camp, underground shop, incinerator, kitchen/dry, upper tents, GS-01, core shack, mechanic shop	9	3	0
October 26	Core shack, gen shack, lower tents, incinerator, kitchen/dry, helicopter shack, construction/mine operations office, Goose forward camp, new camp, mill area, underground shop	14	3	0
December 9	Lower Camp, South Quanset, GS-03, GG-702, incinerator sea can	10	1	0

Date of Inspection	Location(s)	Number of Inspections		
		Total	Building or Skirting Damage Evident	Signs of Wildlife*
December 10	Upper camp kitchen area, upper camp sea cans, upper camp waste treatment and NBR, upper camp assay lab, site services, maintenance area, mine operations	7	1	1
December 13	Tents 44, 116, 132, 140, 144, red building near tent 44, sea can at incinerator, main camp kitchen area, behind main camp, main camp assay lab, mine operations, site services	12	0	1
Total		55	10	3

*No information regarding type of wildlife sign was recorded on the datasheets; therefore, it is unknown what species sign was observed.

Actions as a result of regular inspections included repair of skirting, mesh, and other wildlife exclusion measures to ensure access to infrastructure by wildlife is not possible. Photo 2.7-1 provides an example of maintained skirting at Goose camp that is effective in excluding wildlife.

Photo 2.7-1 Goose camp Maintained skirting, 2023

Guidance was also provided to various departments around the importance of ensuring sea-cans are closed and secured at all times, resulting in increased compliance.

Mitigation and monitoring measures in place by B2Gold Nunavut was effective at excluding bears and wolverine or other furbearers from buildings and other infrastructure. During regular inspections of building and skirting, unidentified wildlife signs were only recorded on three occasions, twice behind the main Goose camp and once near the MLA mechanic shop. Mitigation measures in 2023 were successful at ensuring wildlife were excluded from infrastructure, as summarized in the WMMP Plan.

3. CARIBOU MONITORING AND MITIGATION

Mitigation and monitoring are presented for the Beverly/Ahiak, Bathurst, and Dolphin and Union caribou herds. Caribou from the Beverly/Ahiak herd interact with the Back River Mine during the summer months, and to a lesser degree during the fall and winter periods. The range boundaries for the Bathurst and Dolphin and Union caribou herds are approximately 100 km from the Back River Mine site, and do not regularly interact with the Project. Despite this, mitigation, management, and monitoring apply to all caribou, regardless of herd.

3.1 FEIS PREDICTIONS

The predicted residual effects of the Project on caribou as identified in the FEIS included:

- Habitat loss (not significant, low magnitude);
- Disturbance (not significant, low magnitude);
- Reduction in reproductive productivity (not significant, low magnitude).

Mitigation and management measures to reduce the potential for these effects to result in residual effects on caribou are discussed in Section 7 of the WMMP Plan (Sabina 2023a).

3.2 CARIBOU MANAGEMENT SYSTEM

As part of the WMMP Plan, B2Gold Nunavut is committed to monitoring caribou presence near the mine site and managing site activities through four levels of response to caribou presence, including:

- Level 1 – Normal operations;
- Level 2 – Site notification;
- Level 3 – Site alert; and
- Level 4 – Staged reduction in Project activities.

The Caribou Management System is outlined further in Section 7.1.5.2 of the WMMP Plan (Sabina 2023a).

3.2.1 METHODS

Monitoring was conducted in accordance with, and using datasheet provided in the *Caribou Management System Recording SOP* (B2Gold 2023). This includes monitoring of daily near-real time satellite collar locations for the Bathurst and Beverly/Ahiak caribou herds during the calving, post-calving, and summer seasons (June 5 to July 31, as summarized in Section 7.1.5.1 of the WMMP Plan; Sabina 2023a), reporting of incidental caribou observations by all staff, and active monitoring by the Environment Department. Collectively, these data are used to trigger a staged reduction in site activities, using the four levels of response (Level 1 through Level 4), which is described further in Section 7.1.5.2 of the WMMP Plan (Sabina 2023a).

3.2.2 RESULTS AND DISCUSSION

In 2023, implementation of the caribou management system was required on one occasion at the mine site (Table 3.2-1). To mitigate for effects on caribou, the Environment Department monitored GNWT collar data daily during the calving, post-calving, and summer seasons. While not required

in the WMMP, weekly caribou collar maps were monitored during the rest of the year to anticipate caribou approaching the site.

TABLE 3.2-1 CARIBOU MANAGEMENT SYSTEM USE AT THE BACK RIVER MINE IN 2023

Date	Previous Level	New Level	Reason
June 5	Level 1	Level 2	Beginning of calving season
August 1	Level 2	Level 1	End of early summer

Mitigation and monitoring measures in place by B2Gold Nunavut associated with the caribou management system was effective at monitoring and managing caribou presence near the mine site. In 2023, a Level 2 (Site Notification) response was issued for the mine site from June 5 to July 31 and a site wide reminder email about caribou protection measures was sent on August 1. There were no instances where groups of caribou approached close enough to site to trigger a Level 4 response, therefore no additional mitigation was required in 2023.

3.3 CARIBOU MONITORING ON THE WINTER ICE ROAD

The Back River Mine is committed to ensuring wildlife safe passage near the Winter Ice Road (WIR). Mitigation and management for disruption of movement of caribou and other wildlife focuses on management of the WIR, as per Section 7.1.6 of the WMMP Plan (Sabina 2023a). The objective of caribou monitoring on the WIR is to determine if the WIR is acting as a barrier to movement by documenting caribou moving towards the road or attempting to cross the road, and to apply mitigation measures when required, as described in Section 7.2.1.8 of the WMMP Plan (Sabina 2023a).

The WIR was designed in accordance with the Back River Mine's Wildlife Mitigation Measures for the WIR. Construction activities were based out of a mobile camp ("Forward Camp") near Bathurst Lake, as well as the MLA and Goose camps. In 2023, the WIR operated between March 23 and April 24, 2023. 807 loads (return trips) were hauled on the WIR during the operating period, with additional daily ancillary maintenance equipment and wildlife observation vehicles traversing the route.

In a typical year, the WIR is designed to be closed by April 15 to minimize disturbance to caribou during spring migration. Due to construction and weather-based delays, operation of the WIR extended beyond April 15 and occurred until April 24, 2023.

3.3.1 METHODS

3.3.1.1 CARIBOU SURVEYS ON THE WIR

The WMMP Plan includes surveys for caribou on the WIR by biologists should the WIR be used after April 15. Through discussions with the CTAG, it was decided to start this monitoring program earlier, on March 30, 2023.

On-site biologists surveyed the WIR each day from March 29 to April 24, weather permitting, and informed drivers via radio of locations where caribou may be close enough to require slowing or stopping as per mitigations described in Section 7.1.5.10 of the WMMP Plan (Sabina 2023a).

3.3.1.2 WIR REMOTE CAMERAS

Fourteen remote cameras were deployed along the WIR in areas where satellite collars predicted caribou would be crossing, as well as in areas where caribou sign were observed, with final locations being decided by a wildlife biologist and Inuit Land user in the field (Figure 3.3-1). The cameras operated continuously from March 30 to April 24, and were removed immediately at closure of the WIR. Cameras were initially deployed to face north at each site and were adjusted to have the WIR in the field of view approximately halfway through the deployment period to increase the information on crossing success collected. All cameras were positioned within 10 m of the edge of the WIR.

Cameras were deployed in accordance with the *Remote Camera Monitoring SOP* (Sabina 2022d).

3.3.1.3 WIR TRAFFIC

See Section 2.3.3.1 for details of traffic on the WIR in 2023.

3.3.2 RESULTS AND DISCUSSION

3.3.2.1 CARIBOU SURVEYS ON THE WIR

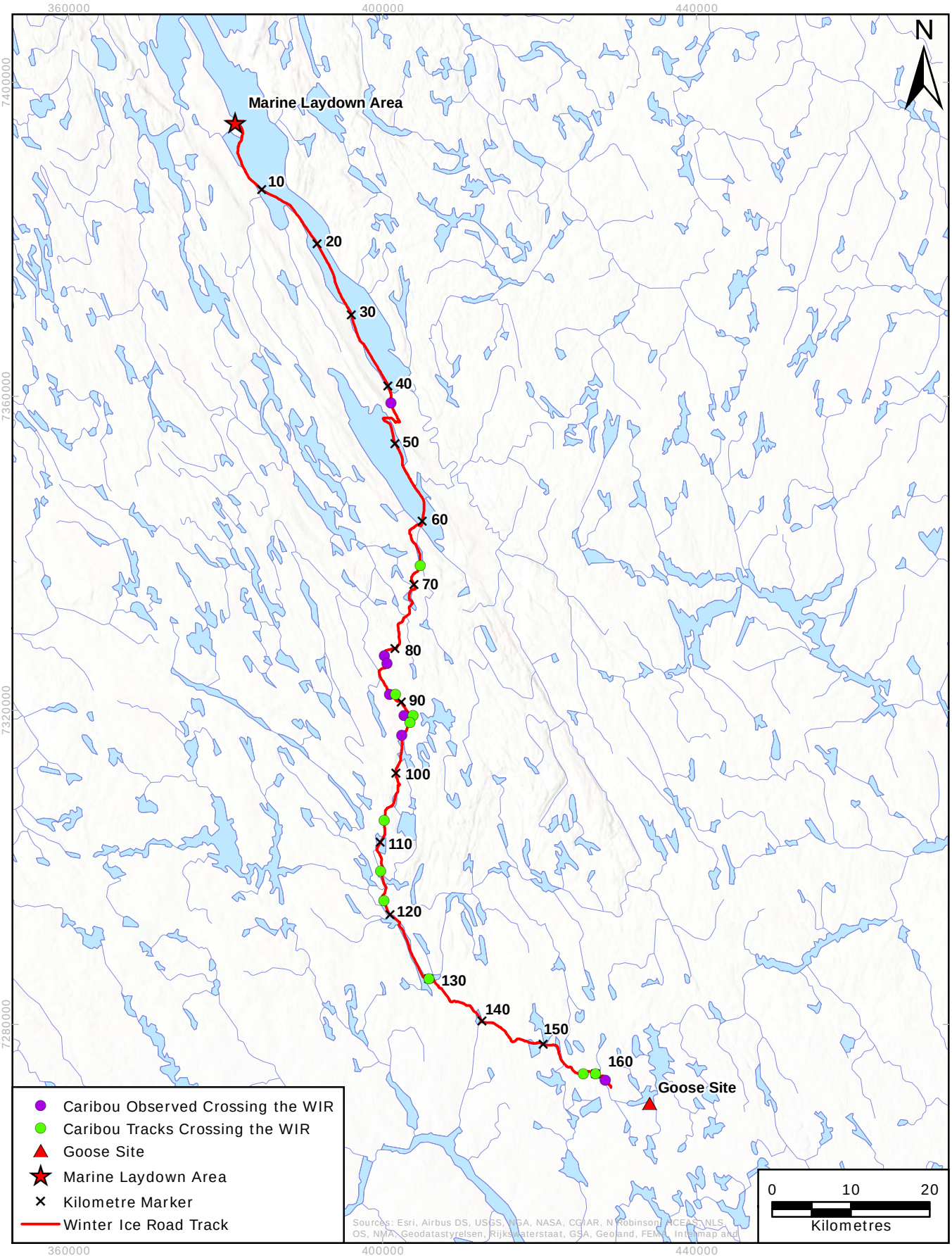
Caribou observations made by the WIR wildlife monitors (one biologist and one Inuit land user) are summarized in this section. Incidental observations of caribou recorded by on site-personnel are summarized in Section 3.9.

While monitoring the WIR each day, groups of caribou were observed on 111 occasions (Appendix C). Group sizes observed ranged from five to over 12,000 individuals, with 16 groups estimated as consisting of 1,000 or more caribou (Photo 3.3-1). The same groups were likely observed on multiple days while the animals passed through the area. All observations were made between KM 42 and KM 162. Groups were typically observed heading east. Direct observations of caribou as well as caribou tracks were recorded crossing at multiple sections of the WIR, suggesting effective mitigation of potential barrier effects of the WIR (Photos 3.3-1 and 3.3-2; Figure 3.3-1).

B2Gold Nunavut Managers on-site consulted with biologists each day to ensure mitigations outlined in the WMMP Plan were being adequately followed by all staff and contractors. It was noted by an Inuit environment technician: “I’m very happy with what I’m seeing out here, this is really important work and the site is doing great”. Biologists interacted with drivers on-site each day, discussing observations on the WIR, the reasoning behind mitigations, and clarifying questions around caribou mitigations before and after April 15. Signage summarizing caribou mitigations was posted around site, and brochures with mitigation information and datasheets for incidental observations were provided to all drivers.

Caribou monitoring, as well as mitigation measures along the WIR to facilitate caribou crossing was effective. Observations of caribou as well as caribou tracks crossing the WIR were frequently observed, suggesting effective mitigation of potential barrier effects of the WIR. Therefore, no additional mitigation was required in 2023.

FIGURE 3.3-1 CARIBOU CROSSING LOCATIONS OBSERVED ALONG THE WIR, 2023



ERM

CLIENT: B2Gold
GIS NUMBER: BAC-23-607a

DATE: 19 March 2024

PROJECTION: NAD 1983 UTM Zone 13N
SCALE: 1:675,000 when printed at 8.5x11

Photo 3.3-1 Caribou Observed Near KM 120 of the WIR

Photo 3.3-2 Caribou crossing the WiR near KM 92

3.3.2.2 WIR REMOTE CAMERAS

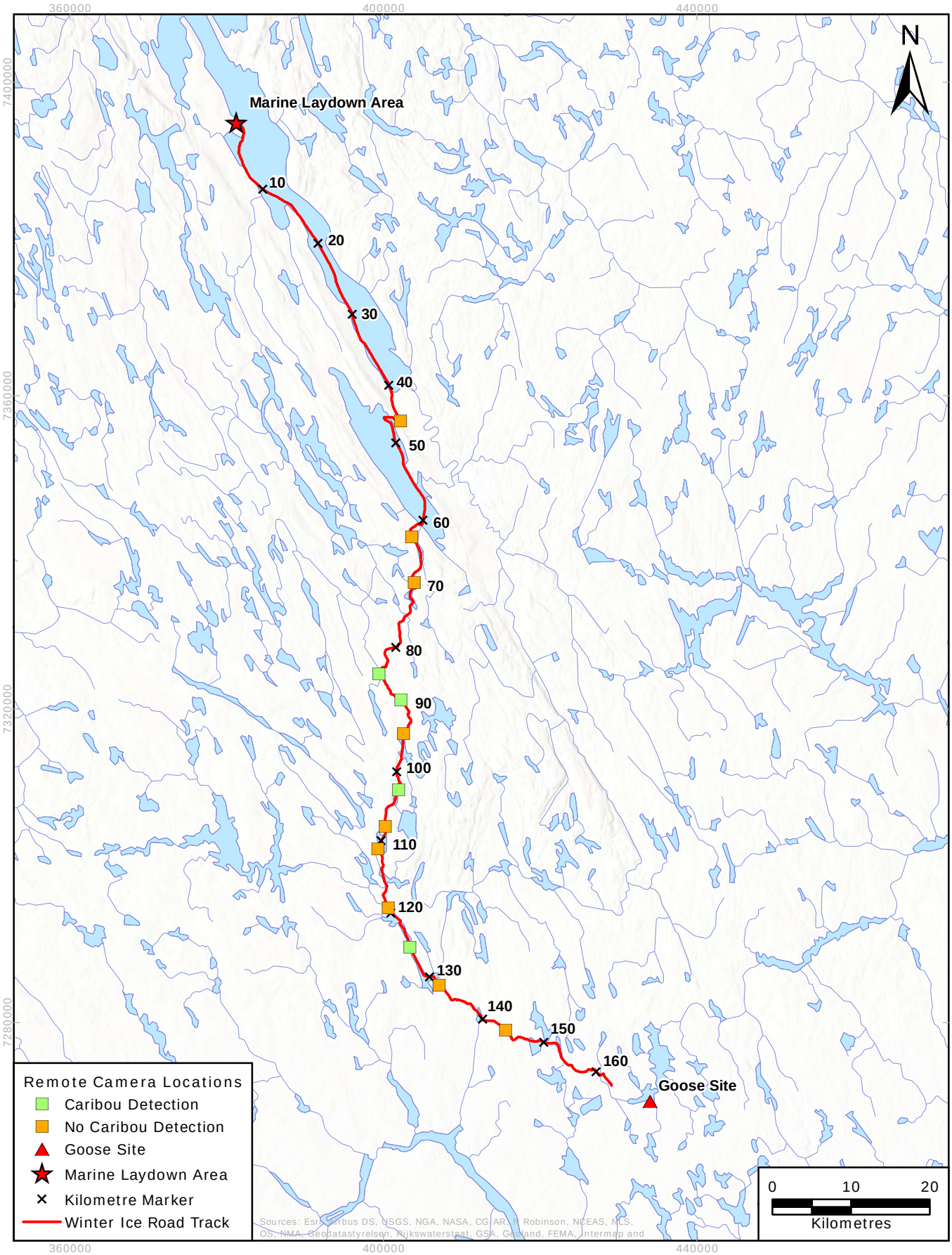
Caribou were recorded on four of the 14 cameras deployed on the WIR in 2023 (Figure 3.3-2; Photo 3.3-3). Caribou recorded on cameras were predominantly mixed groups of males and females, ranging in size from one to 32 individuals. There were seven detection events, recording 77 total caribou, with the earliest detection on April 4 and the last on April 22. Camera detections peaked on April 12, with two detection events (15 and 32 caribou respectively) at WIR kilometer marker (KM) 108. Cameras functioned well throughout the deployment period (March 30 to April 24), with batteries and SD card capacity checked regularly by WIR caribou monitors. In addition to caribou, WIR cameras detected grey wolf at three cameras on five occasions. Results from WIR cameras are summarized in Table 3.3-1.

Deployment of wildlife cameras along the WIR was effective at monitoring caribou presence near the WIR.

TABLE 3.3-1 WILDLIFE DETECTIONS AT REMOTE CAMERAS ALONG THE BACK RIVER WIR, 2023

Date	Species	Scientific Name	Count	Sex	WIR KM
April 3	Grey wolf	*Canis lupus*	1	Unknown	132
April 4	Caribou	*Rangifer tarandus*	6	Mixed	125
April 6	Caribou	*Rangifer tarandus*	16	Mixed	85
April 7	Grey wolf	*Canis lupus*	1	Unknown	125
April 7	Caribou	*Rangifer tarandus*	3	Mixed	85
April 12	Caribou	*Rangifer tarandus*	15	Mixed	108
April 12	Caribou	*Rangifer tarandus*	32	Mixed	108
April 14	Grey wolf	*Canis lupus*	1	Unknown	132
April 19	Caribou	*Rangifer tarandus*	4	Male	90
April 22	Grey wolf	*Canis lupus*	1	Unknown	103
April 22	Grey wolf	*Canis lupus*	1	Unknown	103
April 22	Caribou	*Rangifer tarandus*	1	Female	85

FIGURE 3.3-2 WIR REMOTE CAMERA LOCATIONS, 2023



ERM

CLIENT: B2Gold
GIS NUMBER: BAC-23-607c

DATE: 19 March 2024

PROJECTION: NAD 1983 UTM Zone 13N
SCALE: 1:675,000 when printed at 8.5x11

Photo 3.3-3 Remote camera photo from the 2023 WIR

3.3.2.3 WIR TRAFFIC

Dedicated caribou monitors travelled the WIR every day from March 29 to April 24, weather permitting. While driving along the WIR, monitors located groups of caribou near, or approaching the road, and informed other drivers via radio of the locations of these groups prior to traffic reaching them. In cases where caribou were within the distances or group sizes requiring mitigation as described in Section 7.1.6 of the WMMP Plan (Sabina 2023a), caribou monitors reminded drivers of this requirement and monitored compliance. Examples of mitigation followed during the WIR season included the following, from the WMMP Plan:

- Driving speed on the road is set to ensure drivers can see and stop for caribou when required.
- Trucks are grouped into convoys so there is more time for caribou to cross the road between trips.
- Drivers report all observations of caribou to the Environment department.
- If caribou are within 500 m of the road, trucks slow to 20 km/h to reduce disturbance.
- Trucks stop and wait if caribou are moving towards the road or on the road.

Monitors observed excellent compliance with the mitigation measures, and multiple groups of caribou successfully crossing the WIR during pauses in traffic (Photo 3.3-4). Therefore, no additional mitigation was required in 2023.

Photo 3.3-4 Vehicle Stopped While Waiting for Caribou to Cross the WIR

3.4 SEASONAL CARIBOU RANGES

The seasonal ranges of caribou are monitored through analysis of collar data during specific seasonal periods for the Beverly/Ahiak and Bathurst caribou herd, as described in Section 7.2.1.1 of the WMMP Plan (Sabina 2023a). This analysis is completed to monitor for shifts in the calving range for the herds, which may trigger additional mitigation measures for caribou should the calving grounds shift towards or overlap with the mine site. These collar data are analysed using kernel density analyses. This program has two objectives:

1. Identify if and when caribou may interact with the mine site so that monitoring and mitigation activities can be planned for caribou (e.g., wildlife monitors can be on-site to conduct active caribou monitoring and mitigation).
2. Identify if the calving ground of the Bathurst or Beverly/Ahiak caribou herd has moved to overlap the mine site.

3.4.1 METHODS

Information from satellite collared female caribou collected by the GNWT ENR was used to generate fixed kernel 50% Utilization Distributions (UDs) representing core ranges, and 95% kernel UDs representing broader seasonal range extent for the Bathurst and Beverly/Ahiak caribou herds. UDs were generated for each season as defined by dates from Nagy 2011 (Table 3.4-1) and overlap of the PDA with each seasonal polygon was assessed. Overlap was assessed as the area of the PDA within the bounds of the 50 or 95% seasonal UD for each herd as compared to the total area of each respective UD, represented as a percentage. Distances from the centroid of the calving season 95% UD polygon to the nearest edge of the Goose PDA and MLA PDA were calculated for both caribou herds to allow tracking of potential shifts year to year.

TABLE 3.4-1 CARIBOU SEASON DATES USED FOR SATELLITE COLLAR ANALYSES AT THE BACK RIVER MINE

Seasonal Period[1]	Bathurst Herd Dates	Beverly/Ahiak Herd Dates
Winter	December 1 - April 19	December 16 - April 9
Spring migration	April 20 - June 1	April 10 - June 5
Calving	June 2 - June 16	June 6 - June 19
Post-calving	June 17 - June 28	June 20 - July 8
Summer	June 29 - August 17	July 9 - August 12
Late Summer	August 18 - September 6	August 13 - September 11
Fall migration (pre-breeding)	September 7 - October 16	September 12 - October 20
Rut	October 17 - October 31	October 21 - November 3
Fall migration (post-breeding)	November 1 - November 30	November 4 - December 15

[1] Defined by Nagy 2011

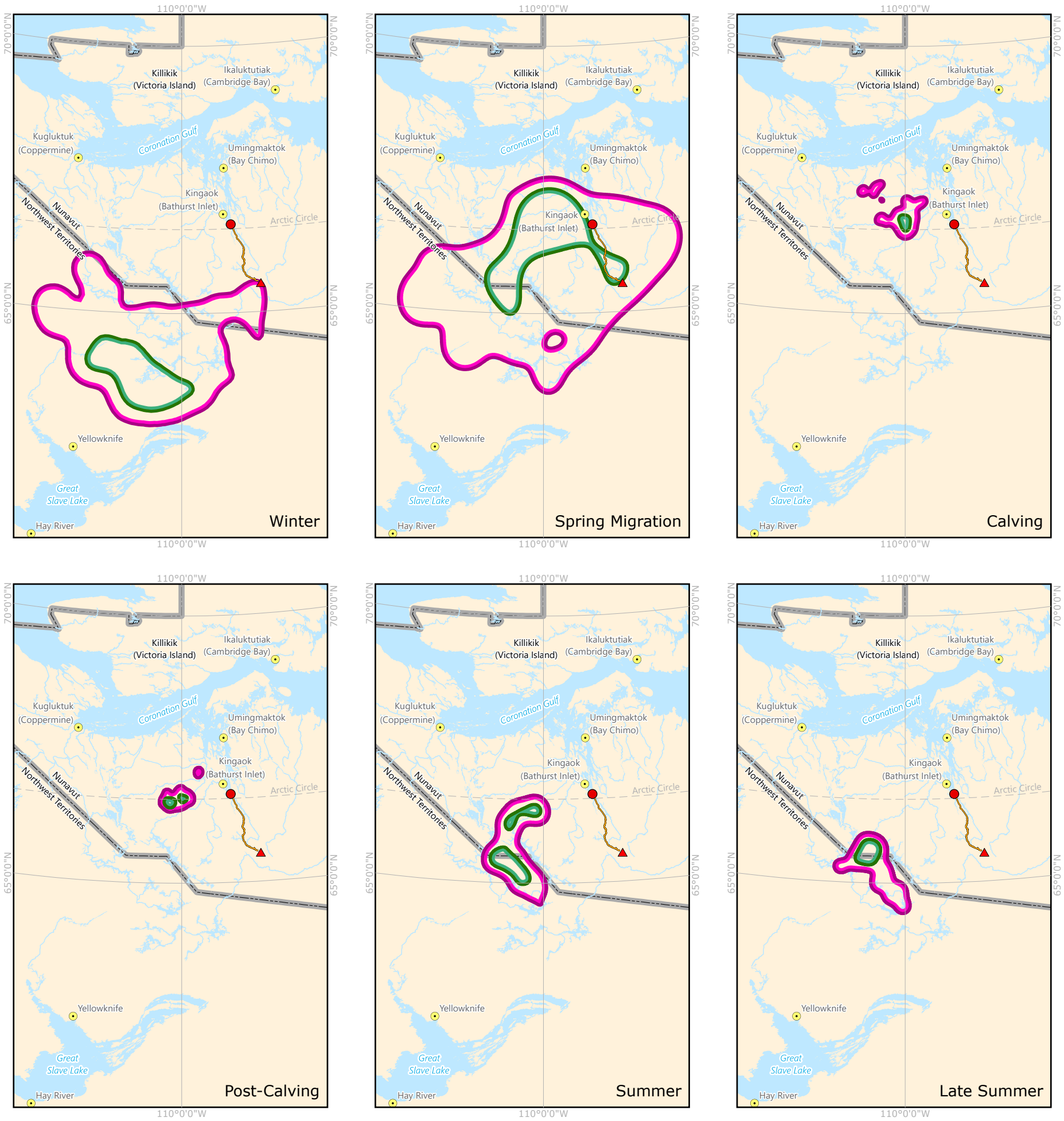
3.4.2 RESULTS AND DISCUSSION

The Bathurst caribou herd 95% UD overlapped the Back River Mine's PDA only during the winter and spring migration seasons and the 50% UD overlapped the PDA only during spring migration (Figure 3.4-1). The PDA overlapped 0.037% of the total 95% UD polygon and 0.071% of the 50% UD polygon during spring migration, and 0.035% of the 95% UD polygon during winter 2023 (Table 3.4-2).

The Beverly/Ahiak caribou herd 95% UD overlapped the Back River Mine's PDA during the winter, spring migration, summer, late summer, rut, and fall migration (pre-breeding) seasons, and the 50% UD overlapped the PDA only during the spring migration and late summer seasons (Figure 3.4-2). The PDA overlapped 0.023% of the 95% UD polygon during winter, 0.020% of the total 95% UD polygon and 0.102% of the 50% UD polygon during spring migration, 0.019% of the 95% UD polygon during summer, 0.020% of the 95% UD polygon and 0.053% of the 50% UD polygon during late summer, 0.036% of the 95% UD polygon during rut, and 0.030% of the 95% UD polygon during fall migration (pre-breeding) in 2023 (Table 3.4-2).

Results of the range analyses for the 2023 calving season show that the calving range centroid for the Bathurst herd was 224.44 km from the nearest edge of the Goose PDA and 118.54 Km from the nearest edge of the MLA PDA. The calving range centroid for the Beverly/Ahiak herd was 346.22 km from the nearest edge of the Goose PDA and 344.33 Km from the nearest edge of the MLA PDA. In comparison to the 2015 FEIS, these values have stayed consistent with no major shifts in calving centroid towards the Back River Mine site. As there has not been a shift in the calving grounds towards the Back River Mine and there continues to be no overlap with the calving grounds, no additional mitigation was required in 2023.

FIGURE 3.4-1 BATHURST CARIBOU SEASONAL RANGES, 2023



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GIS NUMBER: BAC-23-606a

DATE: 03/13/2024

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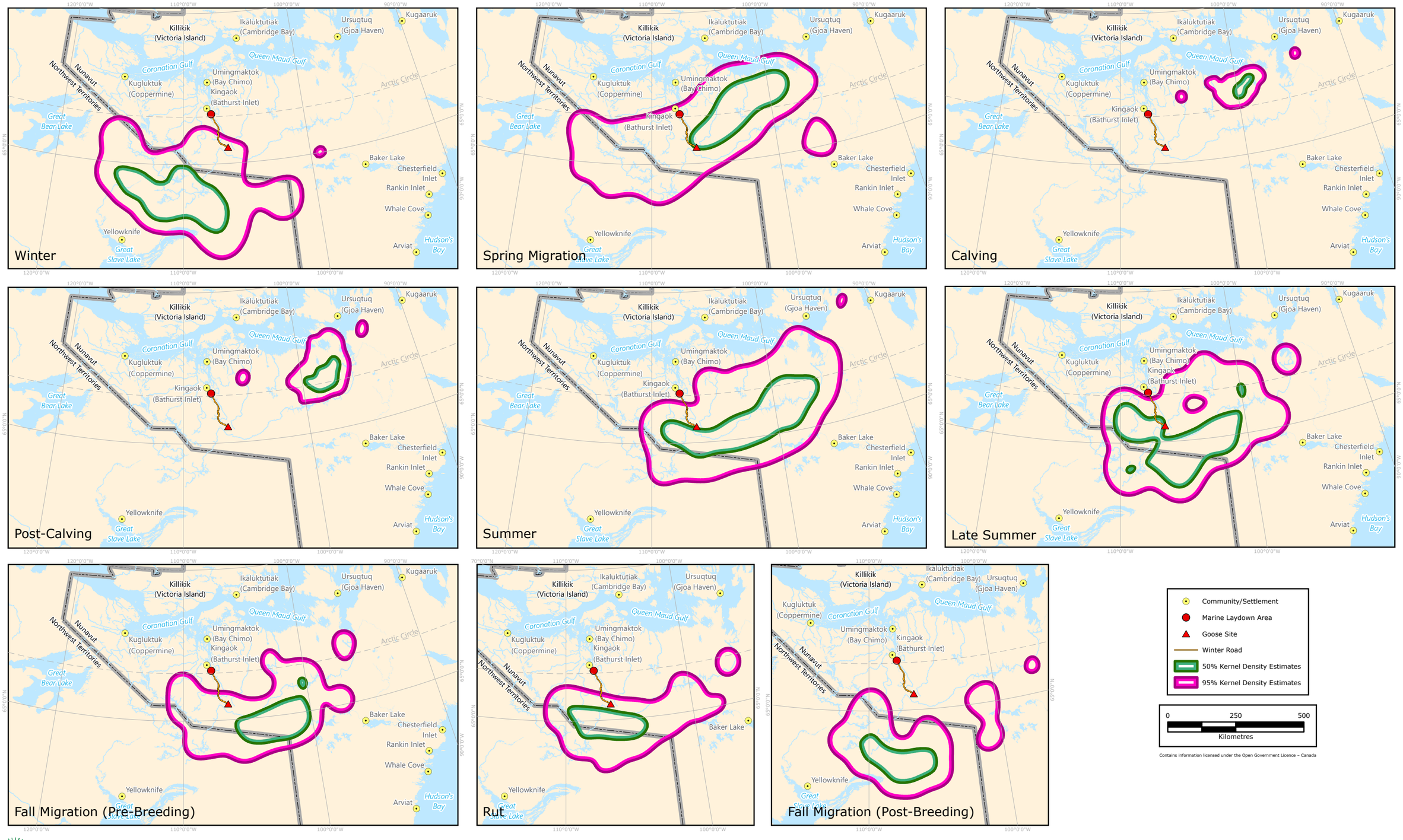
FIGURE 3.4-2 BEVERLY/AHIAK CARIBOU SEASONAL RANGES, 2023



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CLIENT: B2Gold
GIS NUMBER: BAC-23-606

DATE: 03/13/2024

PROJECTION: NTKP Lambert Conformal Conic
SCALE: 1:13,000,000 when printed at 11x17

TABLE 3.4-2 OVERLAP OF THE BACK RIVER PDA (GOOSE AND MLA COMBINED) WITH BATHURST AND BEVERLY/AHIAK SEASONAL RANGE UDS, 2023

Season[1]	Bathurst		Beverly/Ahiak	
	50% UD	95% UD	50% UD	95% UD
Winter	0.000%	0.035%	0.000%	0.023%
Spring migration	0.071%	0.037%	0.102%	0.020%
Calving	0.000%	0.000%	0.000%	0.000%
Post-calving	0.000%	0.000%	0.000%	0.000%
Summer	0.000%	0.000%	0.000%	0.019%
Late Summer	0.000%	0.000%	0.053%	0.020%
Fall migration (pre-breeding)	0.000%	0.000%	0.000%	0.030%
Rut	0.000%	0.000%	0.000%	0.036%
Fall migration (post-breeding)	0.000%	0.000%	0.000%	0.000%

[1] See Table 3.4-1 for definitions of season for each herd.

3.5 CARIBOU MONITORING – GROUP SIZE THRESHOLD AERIAL SURVEY

An aerial group size threshold survey, as outlined in Section 7.2.1.11 of the WMMP Plan (Sabina 2023a), will be conducted within the first three years of Construction to determine the average group size of caribou with potential to interact with the mine site during the summer season to inform triggers for mitigation actions described under the Caribou Management System. This survey is scheduled to occur in 2024 and results will be presented in the 2024 WMMP Report.

3.6 CARIBOU BEHAVIOUR MONITORING

The objective of behaviour monitoring is to test the FEIS prediction that caribou may be disturbed by activities at the Back River Mine, principally noise. This program will determine what behavioural responses caribou display in reaction to potential stressors (e.g., aircraft, vehicles, blasting), as described in Section 7.2.2.2 of the WMMP Plan (Sabina 2023a).

3.6.1 METHODS

Behaviour surveys consisted of scan surveys every three minutes over a 30-minute survey period. Details recorded in each survey interval include a tally of individuals (or a subset of the group for groups >50 animals) exhibiting each behaviour type from the list of standardized behaviours (e.g., feeding, lying down, standing, alert, walking, and trotting/running) and any potential stressors or disturbances including vehicles, aircraft, or predators. Additional data collected for each survey includes the location, time, distance from caribou to the observer, dominant group composition, temperature, wind speed, weather observations, and road structure values (height/slope) where applicable.

Caribou behaviour surveys were conducted in accordance with the *Caribou Behaviour Monitoring SOP* (Sabina 2022e).

3.6.2 RESULTS AND DISCUSSION

A total of nine caribou behaviour surveys were completed in 2023. One caribou behaviour survey was completed in 2023 at the Goose site on August 12 (Figure 3.6-1; Table 3.6-1). The survey group consisted of 11 male caribou, greater than 1 km southeast from the Goose site. Five potential disturbances were recorded during the survey, with only three caribou exhibiting any response behaviours, followed by a return to baseline behaviours within one three-minute survey interval.

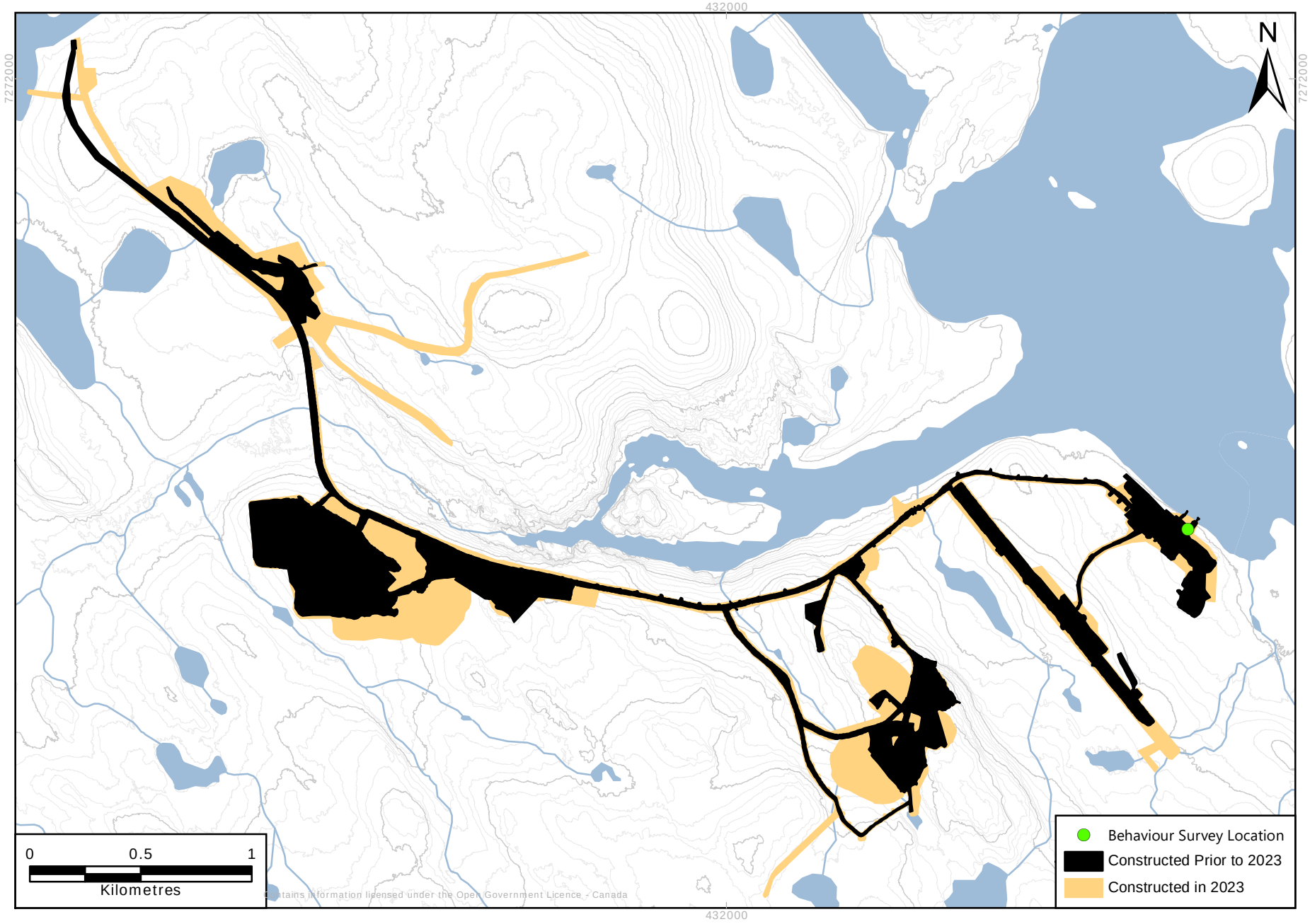
The remaining eight caribou behaviour surveys were completed along the WIR between April 3 and April 13 (Figure 3.6-2). Groups surveyed ranged in size from 31 to over 1,000 individuals, and distances from caribou to the observers ranged from 50 to 1,000 m (Table 3.6-1). Six of the eight surveys included a potential disturbance event, which was recorded alongside caribou behaviours. All six stressor events were followed by a return to baseline behaviours within two three-minute survey intervals.

Over the nine behaviour surveys conducted in 2023, seven recorded at least one potential disturbance event. All caribou surveyed returned to baseline behaviours following potential disturbance events, most commonly within two survey intervals (6 minutes or less). These are qualitative findings due to the low sample size; however, these data will be incorporated with additional data collected in the future to determine potential trends in caribou response to stressors.

TABLE 3.6-1 CARIBOU BEHAVIOUR SURVEYS, 2023

Date	Location	Number of Caribou	Distance from Caribou to Surveyor (m)	Number of Potential Disturbances
April 3	WIR KM 93	50-100	100-300	1
April 4	WIR KM 127	>1,000	300-1,000	3
April 5	WIR KM 115	>1,000	300-1,000	3
April 6	WIR KM 135	>1,000	51-100	0
April 7	WIR KM 153	>1,000	300-1,000	3
April 8	WIR KM 76	31	100-300	0
April 11	WIR KM 126	52	300-1,000	1
April 13	WIR KM 101	55	300-1,000	6
August 12	Goose camp	11	>1, 000	5

FIGURE 3.6-1 CARIBOU BEHAVIOUR SURVEY LOCATIONS, 2023



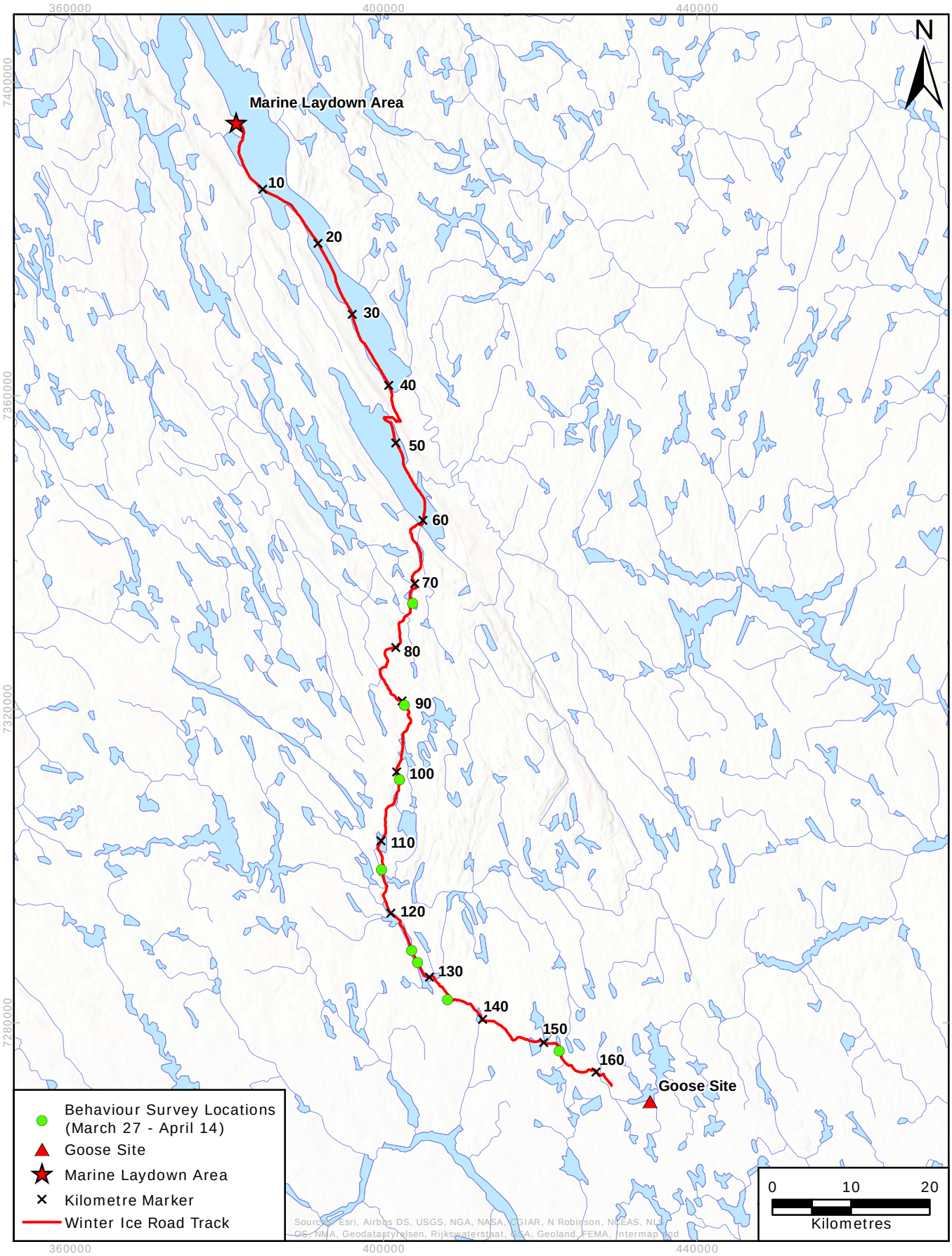
ERM

CLIENT: B2GOLD
GIS NUMBER: BAC-23-607d

DATE: 03/11/2024

PROJECTION: NAD 1983 UTM Zone 13N
SCALE: 1:24,061 when printed at 8.5x11

FIGURE 3.6-2 WIR CARIBOU BEHAVIOUR SURVEY LOCATIONS, 2023



ERM

CLIENT: B2Gold
GIS NUMBER: BAC-23-607b

DATE: 19 March 2024

PROJECTION: NAD 1983 UTM Zone 13N
SCALE: 1:675,000 when printed at 8.5x11

3.7 ON-SITE CAMERA MONITORING

The objective of the On-Site Camera Monitoring Program is to monitor caribou (and other wildlife) activities around site infrastructure, as described in Section 7.2.1.5 of the WMMP Plan (Sabina 2023a). Wildlife cameras have been deployed in areas where wildlife may be more likely to interact with facilities and infrastructure or areas not staffed for long period of time, including but not limited to:

- Camps;
- WIR (crossing locations and control locations);
- Waste management facilities;
- Tailing Impoundment Facilities; and
- Areas known to be frequented by wildlife.

Data from this monitoring program may be used to inform adaptive management actions to reduce interactions between wildlife VECs and mine site facilities or infrastructure.

3.7.1 METHODS

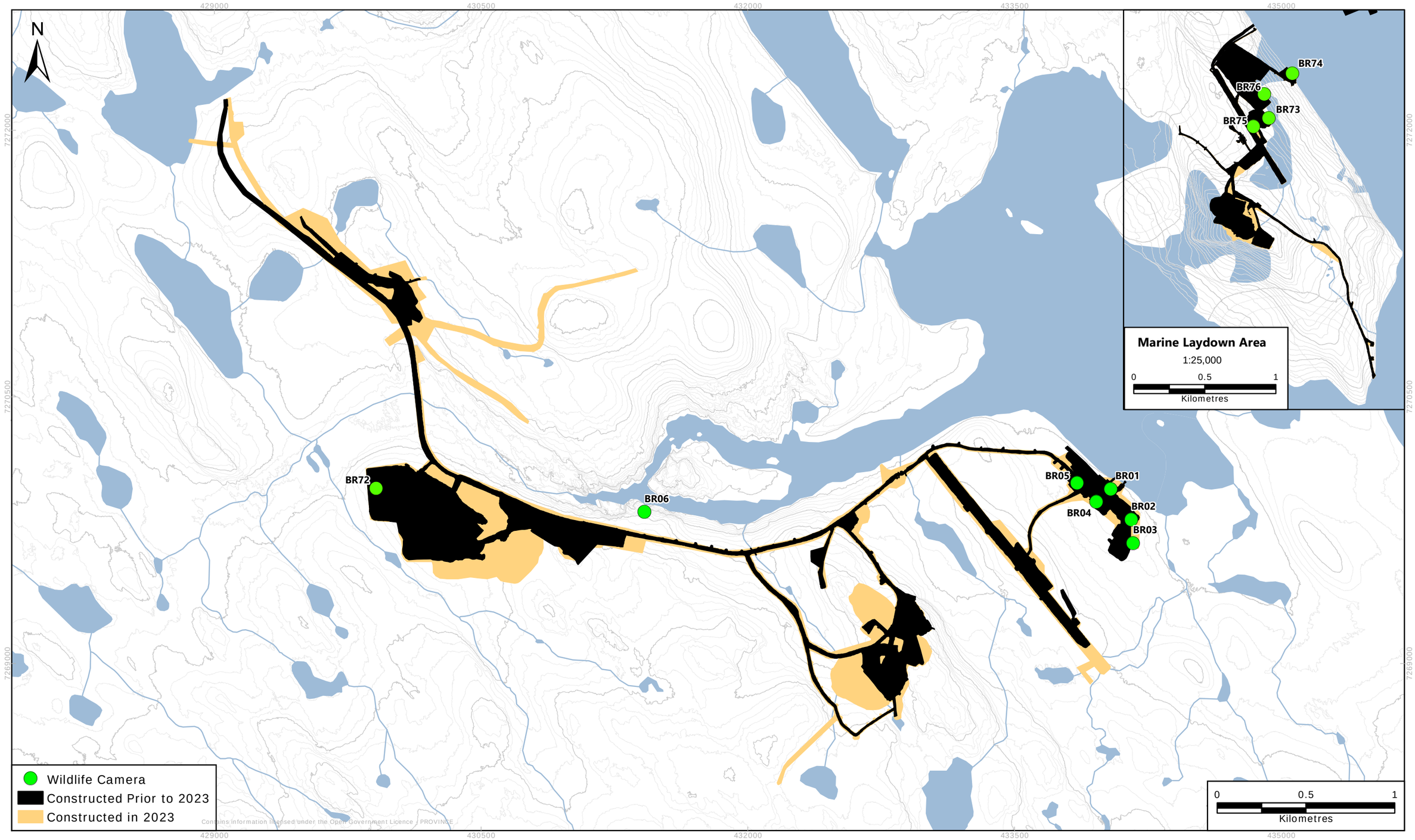
Seven wildlife cameras were deployed around the Goose camp, and four were deployed at the MLA in 2023 (Figure 3.7-1). All cameras previously deployed in 2022 (BR01 through BR06) were continuously operational from January to December 2023, with an additional camera added at the newly constructed Goose camp in September, and four cameras added at the MLA in October (Table 3.7-1). On-site cameras were deployed in addition to the 14 WIR cameras (Section 3.3.1.2) and 59 regional monitoring cameras (Section 3.8.1).

TABLE 3.7-1 WILDLIFE CAMERA DEPLOYMENT INFORMATION AT GOOSE CAMP AND THE MLA

Camera ID	Start Date	End Date	Location
BR01[1]	January 1	December 31	Back of kitchen
BR02[1]	January 1	December 31	Waste management (incinerator)
BR03[1]	January 1	December 31	Drill tailings sump pit
BR04[1]	January 1	December 31	Grey water discharge
BR05[1]	January 1	December 31	Hazmat berm
BR06[1]	January 1	December 31	Southwest shore of Goose Lake near wolverine den
BR72[2]	September 19	December 31	Goose camp, back of kitchen at new camp
BR08[2]	October 8	December 31	MLA – Back of kitchen
BR09[2]	October 8	December 31	MLA – Desalination cell
BR14[2]	October 8	December 31	MLA – Incinerator
BR17[2]	October 8	December 31	MLA – Mechanic shop

[1] Previously deployed in 2022.
[2] Deployed in 2023 but data were not yet available for this report. Data from late 2023 will be included in the 2024 WMMP Report.

FIGURE 3.7-1 ON-SITE CAMERA MONITORING LOCATIONS, 2023



ERM

CLIENT: B2Gold
GIS NUMBER: BAC-23-607e

DATE: 03/11/2024

PROJECTION: NAD 1983 UTM Zone 13N
SCALE: 1:20,000 when printed at 11x17

Data from the new Goose camera (BR72) and MLA cameras were not available for processing at the time of this report, but remain deployed and continuously collecting data; images from these cameras that were deployed late in 2023 will be included in the 2024 annual report.

Cameras were deployed with a clear field of view and set to capture both motion triggered and timed (every 30 minutes) photos. Cameras were regularly checked to ensure SD card capacity and battery levels were appropriate for continuous function.

Cameras were deployed in accordance with the *Remote Camera Monitoring SOP* (Sabina 2022d). This includes selection of areas with the potential to attract wildlife, high likelihood of interaction with wildlife, or areas of previous incidences of wildlife interaction with infrastructure.

3.7.2 RESULTS AND DISCUSSION

There were 11 species detected on the on-site monitoring cameras in 2023 (Table 3.7-2). Caribou were predominantly recorded during winter, with detections also occurring less commonly during spring migration, summer, and late summer (see Table 3.4-1 for season definitions). The most common location caribou were detected was camera BR06, near the southwest shore of Goose Lake. Caribou were also detected at three other cameras (BR01, BR03, BR04) around the Goose site, travelling through the area without interaction or feeding on most occasions. All observations outside of those at camera BR06 occurred in August or September.

TABLE 3.7-2 WILDLIFE CAMERA DETECTIONS, JANUARY TO DECEMBER 2023

Species	Scientific Name	Camera Location[1]						Total
		BR01	BR02	BR03	BR04	BR05	BR06	
Mammals								
Arctic Fox	*Vulpes lagopus*	-	-	5	-	-	1	6
Arctic Hare	*Lepus arcticus*	71	51	158	173	27	2	482
Caribou	*Rangifer tarandus*	7	-	1	2	-	43	53
Grey Wolf	*Canis lupus*	-	1	-	1	-	-	2
Grizzly Bear	*Ursus arctos*	-	-	-	-	-	-	-
Red Fox	*Vulpes vulpes*	-	-	3	-	2	-	5
Wolverine	*Gulo gulo*	-	1	-	-	-	-	1
Birds								
Common Raven	*Corvus corax*	8	104	1	2		3	118
Rock Ptarmigan	*Lagopus muta*	58	-	-	-	22	-	80
Small Mammal	-	-	6	1	-	-	-	7
Unspecified Ptarmigan	*Lagopus* sp.	24	13	20	11	78		146
Bird (other)	-	22	-	-	12	2	-	36

[1] See Table 3.7-1 for camera location descriptions.

On-site camera monitoring in place by B2Gold Nunavut was effective at monitoring caribou activities around site infrastructure. No caribou were recorded interacting with infrastructure at the on-site monitoring cameras in 2023, and as such no adaptive management measures were triggered by this program.

Full results from cameras are available in Appendix D. An example image is provided in Photo 3.7-1.

Photo 3.7-1 Caribou at On-Site Monitoring Camera BR06 at the Southwest Shore of Goose Lake

3.8 REGIONAL CAMERA MONITORING

Regional camera monitoring is conducted to evaluate if caribou and other wildlife are avoiding the Back River Mine site due to disturbance, as described in Section 8.2.2.2 of the WMMP Plan (Sabina 2023a). The regional camera monitoring program is designed as a Before-After-Control-Impact study, using the existing camera data from 2012 to 2015 as the before category (Rescan 2013; 2014).

3.8.1 METHODS

To evaluate Zone of Influence (ZOI) type effects, the cameras were deployed in three “zones” at varying distances from the mine site: the treatment zone (0 - 2 km), the ZOI (2 - 10 km), and the control zone (> 10 km) following a design implemented at other mines in Nunavut. Baseline studies for the Back River Mine (2012 to 2015) were conducted with 60 cameras in five transects, and locations were noted prior to deployment in 2023 (Rescan 2013; 2014).

To improve independence, cameras were not in line of sight of each other, and were deployed a minimum of 2 km apart wherever possible. Camera separation distances within ZOI and control zones were similar to treatment cameras to minimize differences due to clustering, although some clustering of treatment cameras was unavoidable while retaining independence between sites. Cameras were oriented to ensure the area within 40 m in front of the camera was clear so that cameras are equal in their 'trigger zone' field of view.

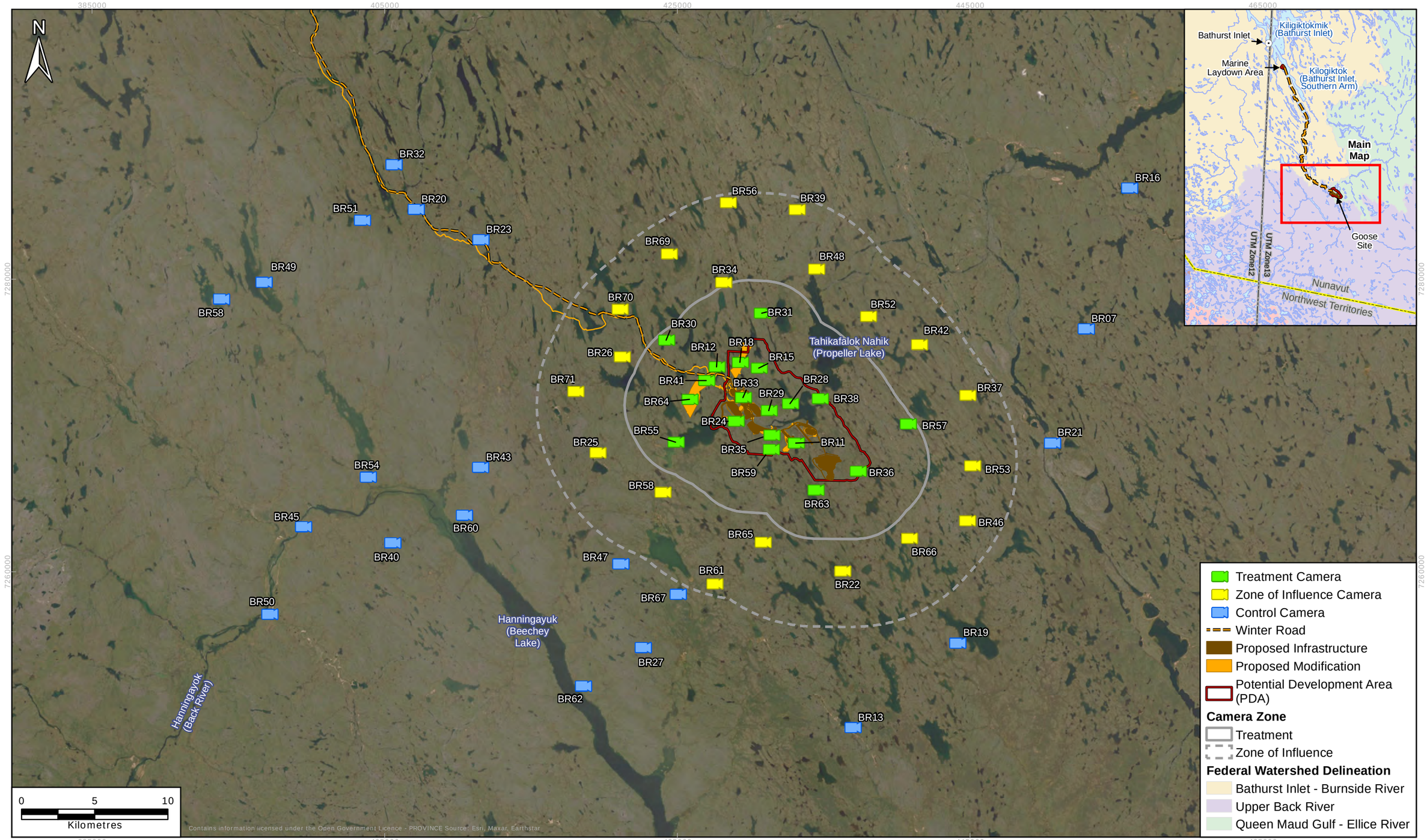
Camera programming and deployment methods followed the B2Gold *Remote Camera Monitoring SOP* (Sabina 2022d), including the use of a standardized wooden tripod weighted with rocks, capturing motion triggered and hourly timed photos, and use of metal security boxes to reduce the likelihood of wildlife damage (Photo 3.8-1).

Photo 3.8-1 Remote Camera Setup using a Wooden Tripod and Security Box

3.8.2 RESULTS AND DISCUSSION

In total, 59 wildlife cameras were deployed between July 28 to 31, 2023 (Figure 3.8-1). Regional cameras were deployed in three zones: 19 within the treatment zone, 19 within the ZOI, and 21 in the control zone. Camera locations were similar to those from the baseline study wherever possible to allow comparability between years and to improve analytical power. Cameras were left out to ensure a complete year of data collection. The camera cards will be retrieved in July 2024, and summary results will be included in the 2024 WMMP Report.

FIGURE 3.8-1 REGIONAL CAMERA MONITORING LOCATIONS, 2023



ERM

CLIENT: B2Gold
GIS NUMBER: BAC-23-604d

DATE: 03/18/2024

PROJECTION: NAD 1983 UTM Zone 13N
SCALE: 1:245,000 when printed at 11x17

3.9 INCIDENTAL OBSERVATIONS

All personnel are responsible for recording wildlife sightings in the camp's wildlife logs (Appendix E). These logs provide an indication of the wildlife species that occur in proximity to and interact with Back River infrastructure, as described in Section 7.2.1.4 of the WMMP Plan (Sabina 2023a).

Personnel were on site at the Goose camp and MLA year-round in 2023 (Table 3.9-1). The average daily occupancy at the Goose site throughout the 2023 season was 169 people with a peak of 308 people in November. At the MLA site, the average was 51 people, with a peak of 69 people in December.

TABLE 3.9-1 AVERAGE NUMBER OF ON-SITE PERSONNEL IN 2023

Month	Number of Personnel on Site	
	MLA	Goose
January	40	78
February	45	85
March	63	104
April	68	107
May	32	143
June	46	152
July	56	140
August	53	136
September	54	234
October	45	263
November	40	308
December	69	272

3.9.1 METHODS

All personnel at the Back River Mine are expected to report observations of wildlife occurring around or interacting with the mine to the Environment Department. Incidental observation reports include location (GPS coordinates), date, time, species, number observed, behaviour, and any other descriptive information regarding the sighting.

Incidental observations were recorded in accordance with and using the data sheet provided in the *Incidental Wildlife Observations SOP* (Sabina 2022a).

3.9.2 RESULTS AND DISCUSSION

Caribou recorded in the Back River Mine's wildlife logs for 2023 are summarized in Table 3.9-2 by season and location. Overall, there was a total of 93 separate incidental observations of caribou, totaling an estimated 27,510 animals (Appendix E).

TABLE 3.9-2 SUMMARY OF INCIDENTAL OBSERVATIONS OF CARIBOU RECORDED BY B2GOLD STAFF DURING EACH SEASON IN 2023

Season	Dates	Goose Site		MLA Site		WIR[1]	
		Observation Events	Estimated Number of Individuals	Observation Events	Estimated Number of Individuals	Observation Events	Estimated Number of Individuals
Winter	January 1 – April 14[2]	5	1,221	0	0	53[3]	24,730
Spring Migration	April 15 – June 4	13	1,481	4	30	0	0
Calving	June 5 – June 15	1	1	0	0	0	0
Post-Calving	June 16 – July 20	3	3	0	0	0	0
Summer	July 21 – August 31	1	1	0	0	0	0
Fall Migration	September 1 – October 31	11	38	0	0	1	3
Winter	November 1 – December 31[4]	1	2	0	0	0	0
Total		**35**	**2,747**	**4**	**30**	**54**	**24,733**

[1] Includes both the MLA and Goose forward camps.
[2] The caribou winter season is defined as November 1 to April 14; however, the Back River WMMP reporting year is January 1 to December 31. As a result only incidental sightings from January 1 to April 14 2023 are included in this report.
[3] Missing estimated number of individuals for five observations that classified number of individuals by saying “lots”, “couple hundred”, and “thousands”.
[4] Winter sightings in November and December 2023 are included in this report, but do not cover the entire 2023-2024 winter season, as the WMMP reporting year ends on December 31, 2023.

Caribou were most frequently recorded during winter (January 1 - April 14) and spring migration (April 15 - June 4), with 75 sightings (accounting for 80% of observation events) and 27,462 individuals (99% of individuals observed).

The estimated number of individuals does not indicate the exact number of individual animals present, as general estimates were given for large groups and animals may have been observed on more than one occasion. Additionally, the 2023 estimated total number of caribou does not include five observation events along the WIR that classified number of individuals as a non-numerical quantity (e.g., hundreds, thousands, lots). Observation events from both the MLA and Goose forward camps, located along the WIR, were included under the totals for the WIR. Additionally, the 2023 incidental sightings reported in this section do not include 111 sightings recorded by wildlife monitors along the WIR, as these are described in Section 3.3.2.1.

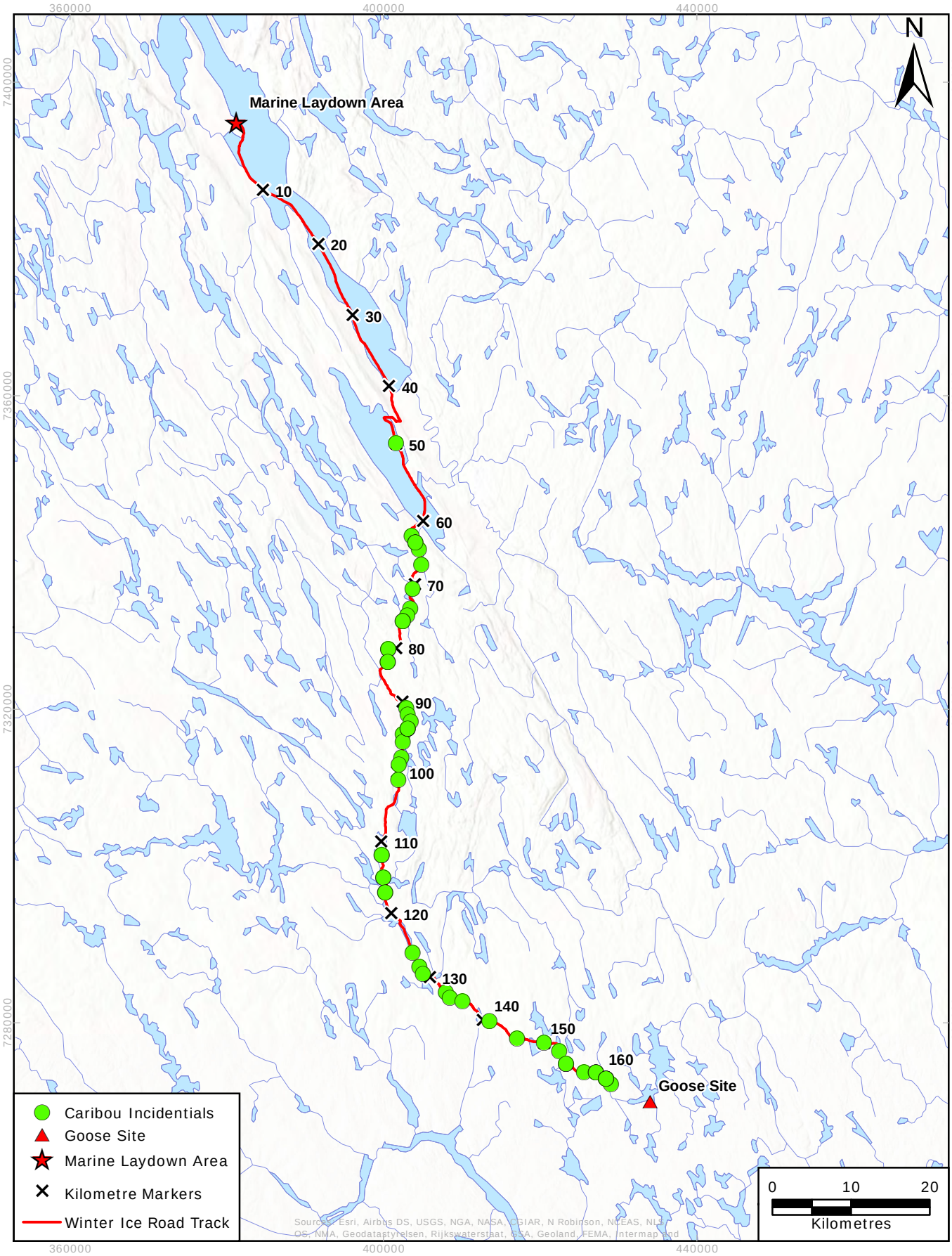
Incidental observations of caribou were most commonly made along the WIR, with 54 sightings (accounting for 58% of observation events) and 24,733 individuals (90% of individuals observed). Caribou were primarily incidentally recorded along the WIR from February 20 to April 13 (53 of 54 observation events), with one observation event occurring at the Goose Forward Camp on September 19.

The second most common location for sightings was at the Goose site; 35 sightings (accounting for 38% of observation events) were made from the Goose site during all seasons; however, very few animals were observed, accounting for only 2,747 individuals (10% of individuals observed). Observations near the Goose site typically consisted of between 1 and 60 individuals (30 of 35 observation events), whereas observations along the WIR typically consisted of groups greater than 100, with seven observation events of groups between 1,000 and 8,000, accounting for 20,000 individuals (77% of the total number of individuals recorded along the WIR). Caribou were very infrequently observed near the MLA site (4% of observation events and 0.1% of individuals), with all observations being made in the spring migration season (Table 3.9-2).

During the winter season in 2023, there were 58 sightings of caribou recorded between February 20 and April 13. Five of these sightings occurred near Goose camp (40 animals on February 25, one animal on March 28, 30 animals on March 30, 150 animals on April 9, and 1,000 animals on April 13, with all observed between 1 and 2 km from Goose camp), while the remaining 53 sightings occurred along the WIR between February 20 and April 13 (Figure 3.9-1). The largest group of caribou observed during the winter was recorded on April 12, when a group of greater than 8,000 animals was observed near KM155 of the WIR (Figure 3.9-1). Additional sightings during winter along the WIR made by dedicated biologist monitoring the WIR for caribou are not included in this section and are summarized in Section 3.3.2.1.

During spring migration, there were 17 sightings of caribou between April 16 and June 3, 13 of which were observed from Goose, and the remaining four from the MLA. The largest group of caribou observed during spring migration was of approximately 750 animals, observed 2 km from Goose. Additional sightings during the spring migration were recorded along the WIR by the dedicated caribou biologists and are reported in Section 3.3.2.1.

FIGURE 3.9-1 INCIDENTAL OBSERVATIONS OF CARIBOU IN THE WINTER SEASON, 2023



ERM

CLIENT: B2Gold
GIS NUMBER: BAC-23-607f

DATE: 18 March 2024

PROJECTION: NAD 1983 UTM Zone 13N
SCALE: 1:675,000 when printed at 8.5x11

There were four sightings of single adult caribou during the calving and post calving seasons. On June 8, one caribou was observed at the main Goose camp; the caribou was seen running along the shore of Goose Lake and swam into the lake. Between July 18 and July 20, an individual caribou was observed on each of the three days approximately 2 km from Goose camp. No other sightings of caribou were recorded during the calving or post-calving seasons.

During the summer and fall migration, there were a total of 13 caribou sightings. Only one adult caribou was observed in the summer, on July 22, approximately 2 km from Goose. The remaining 12 sightings were during fall migration between September 3 and October 3. One of the fall migration sightings was near Goose forward camp along the WIR (a group of three caribou observed feeding on September 19), while the remaining 11 sightings were near the Goose camp (at the camp, or between 200 m and 1.5 km from the camp). The largest group was of eight animals, observed on September 4 around the Goose camp.

There was an additional sighting of two caribou on November 19 during the winter season. These two caribou were observed near the airstrip at Goose camp.

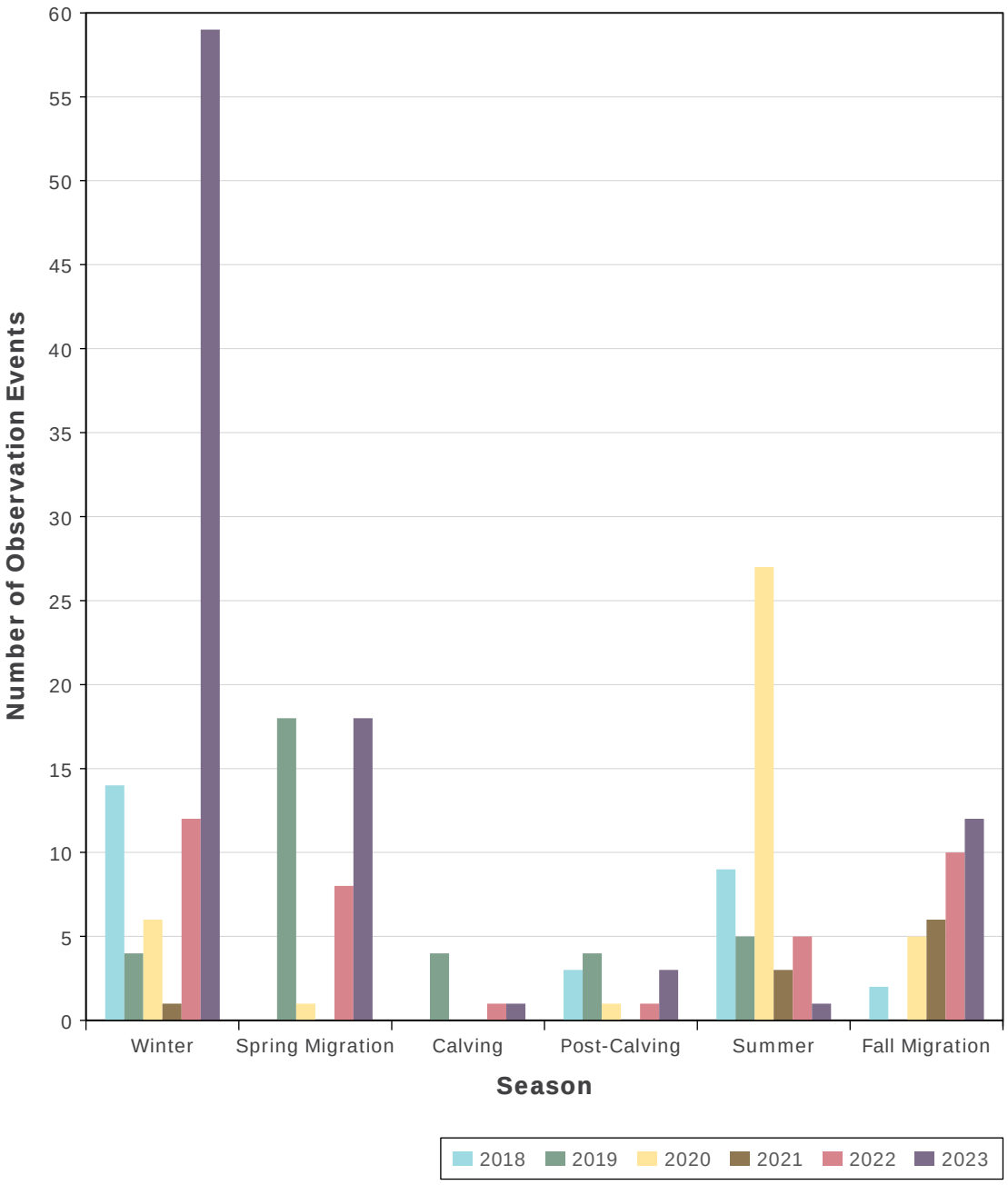
A higher number of incidental observations were made in 2023 compared to previous years (2018 to 2022; Table 3.9-3). For example, the estimated number of individuals recorded in 2023 (27,510) was higher than the cumulative number of individuals recorded from 2018 to 2022 (24,592). The elevated number of observation events and individuals in 2023 can be attributed to more consistent presence of staff on-site throughout the year and to the WIR being operational in 2023, for which 90% of the total individuals observed were attributed to. In addition, effort in recording incidental sightings increased in 2023 based on feedback from previous years, resulting in improved compliance from all staff with reporting expectations, particularly along the WIR.

TABLE 3.9-3 SUMMARY OF INCIDENTAL OBSERVATIONS OF CARIBOU DURING EACH SEASON, 2018 TO 2023

Season	Number of Sightings						Estimated Number of Individuals					
	2018	2019	2020	2021	2022	2023	2018	2019	2020	2021	2022	2023
Winter	14	4	6	1	12	59	1,603	252	21	1	1510	25,953
Spring Migration	0	18	1	0	8	18	0	13,310	2	0	950	9,511
Calving	0	4	0	0	1	1	0	1,400	0	0	9	1
Post-Calving	3	4	1	0	1	3	7	7	1	0	1	3
Summer	9	5	27	3	5	1	128	7	3,071	157	261	1
Fall Migration	2	0	5	6	10	12	21	0	16	918	939	41
Total	**28**	**35**	**40**	**10**	**37**	**94**	**1,759**	**14,976**	**3,111**	**1,076**	**3,670**	**27,510**

Between 2018 and 2023, winter is the only season when caribou are consistently observed by mine personnel (at the MLA or Goose site; Figure 3.9-2). This is consistent with both collar data and baseline data. During the calving season (June 5 to June 15) in 2023, one individual caribou was observed travelling past Goose camp. No caribou were observed during the calving season in 2018, 2020, and 2021. All caribou observed during the calving season in 2019 (four observation events) and 2022 (one observation event of nine individuals) were between 2 and 4 km from Goose camp. Although the sightings of caribou in 2019 were of large groups (greater than 100 or greater than 1,000), they were actively travelling past the area (presumably migrating to the calving area). The incidental observations made from 2018 to 2023 support that the Back River Mine does not overlap with the calving grounds.

FIGURE 3.9-2 NUMBER OF INCIDENTAL OBSERVATIONS OF CARIBOU BY SEASON, 2018 TO 2023



4. MUSKOX MONITORING AND MITIGATION

Muskox inhabit Arctic tundra environments and occur in varying densities throughout Nunavut. Muskox are not migratory, but may vary in group size throughout the year, with larger herds forming through the winter. Although muskox are not listed as a species of conservation concern federally or in Nunavut, they are monitored at the Back River Mine.

4.1 FEIS PREDICTIONS

The predicted residual effects of the Back River Mine on muskox as identified in the FEIS included:

- Habitat loss (not significant, low magnitude);
- Disturbance (not significant, low magnitude);
- Reduction in reproductive productivity (not significant, low magnitude).

Mitigation and management measures to reduce the potential for these effects to result in residual effects on muskox are discussed in Section 8 of the WMMP Plan (Sabina 2023a).

4.2 MUSKOX BEHAVIOUR MONITORING

The muskox behaviour monitoring program is aimed at identifying if muskox display any behavioural responses in reaction to potential stressors at the mine site, including aircraft, vehicles, and blasting, as described in Section 8.2.2.2 of the WMMP Plan (Sabina 2023a).

4.2.1 METHODS

Behaviour monitoring for muskox is conducted by wildlife monitors if muskox are observed within 1 km of the Back River site. Surveys are conducted using the scan sampling method to characterize the predominant behaviour of muskox in relation to the Back River Mine activities. Surveys are conducted following the behaviour monitoring methods outlined for caribou in Section 3.6.1 and in the *Caribou Behaviour Monitoring SOP* (Sabina 2022e).

4.2.2 RESULTS AND DISCUSSION

No muskox were observed within 1 km of the Project in 2023, and as a result no behaviour surveys were completed in 2023. Therefore, no additional mitigation for muskox was required in 2023.

4.3 ON-SITE CAMERA MONITORING

Wildlife cameras were deployed at the Goose site, the MLA, and WIR in 2023. The 2023 on-site camera monitoring program methods are described in Section 3.7.1.

4.3.1 RESULTS AND DISCUSSION

No muskox were recorded by on-site cameras in 2023. Therefore, no additional mitigation was required for muskox in 2023.

4.4 REGIONAL CAMERA MONITORING

The regional camera monitoring program is discussed in Section 3.8. Remote cameras were deployed in July 2023. The cameras will be collected in July 2024 to ensure a full year of data collection and results will be provided in the 2024 annual WMMP Report.

4.5 INCIDENTAL OBSERVATIONS

All personnel are responsible for recording wildlife sightings in the camp's wildlife logs (Appendix E). These logs provide an indication of the wildlife species that occur in proximity to and interact with the Back River Mine infrastructure, as described in Section 8.2.1.2 of the WMMP Plan (Sabina 2023a). Section 3.9 summarizes the number of personnel on site collecting incidental sightings.

4.5.1 METHODS

All personnel at the Back River Mine are expected to report observations of wildlife occurring around or interacting with the mine to the Environment Department. Incidental observation reports include location (GPS coordinates), date, time, species, number observed, behaviour, and any other descriptive information regarding the sighting.

Incidental observations were recorded in accordance with and using the data sheet provided in the *Incidental Wildlife Observations SOP* (Sabina 2022a).

4.5.2 RESULTS AND DISCUSSION

In 2023, there were five incidental observations of muskox, all of which were of one individual (Appendix E). Muskox were observed in February (three sightings), August (one sighting), and September (one sighting) 2023. On February 10, muskox were recorded twice along the WIR (MLA Forward Camp and KM37) within 1 km of the road. The other muskox sighting in February was recorded 2km away from MLA camp. Muskox were recorded between 1.5 km and 1.75 km away from Goose camp on August 16 and in September 18.

Fewer muskox were observed in 2023 compared to 2022. In 2022, 111 animals over five sightings were reported. No large groups of muskox were observed in 2023.

5. GRIZZLY BEARS, WOLVERINE AND OTHER CARNIVORES

Grizzly bear and wolverine are considered a species of Special Concern by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and on Schedule 1 of the *Species at Risk Act* (SARA; COSEWIC 2003; COSEWIC 2012; Government of Canada 2024). Additionally, in Nunavut grizzly bear are territorially listed as vulnerable (S3) suggesting they are at moderate risk of extirpation (CESCC 2020). Other carnivore species known to occur in the area include arctic and red fox species (*Vulpes lagopus* and *V. vulpes*, respectively), and grey wolf These species are included as a focus at the Back River Mine due to their at-risk status, cultural importance, and potential for attraction to infrastructure or humans.

5.1 FEIS PREDICTIONS

The predicted residual effects of the Back River Mine on grizzly bear and wolverine as identified in the FEIS included:

- Habitat loss (not significant, low magnitude);
- Disturbance (not significant, low magnitude);
- Attraction (not significant, low magnitude); and
- Reduction in reproductive productivity (not significant, low magnitude).

Additionally, the predicted residual effects of the Back River Mine on wolves as identified in the FEIS included:

- Habitat loss (not significant, low magnitude); and
- Disturbance (not significant, low magnitude).

Mitigation and management measures to reduce the potential for these effects to result in residual effects on grizzly bear, wolverine, and wolves are discussed in Section 9 of the WMMP Plan (Sabina 2023a).

5.2 WASTE MANAGEMENT AND MONITORING

Waste management and monitoring completed in 2023 is presented in Section 2.6. In January 2023, there were two wolverines euthanized due to attraction to the incinerator and three incidents of deterring wolverine at Goose camp (see Section 9). No other sightings of grizzly bears, wolverine, or other carnivores or their sign were recorded at waste management facilities in 2023.

5.3 BUILDING AND SKIRTING MONITORING

Building and skirting monitoring completed in 2023 is presented in Section 2.7. No sightings of grizzly bears, wolverine, or other carnivores or their sign were recorded attempting to access facilities in 2023.

5.4 ON-SITE CAMERA MONITORING

Wildlife cameras were deployed at the Goose site, the MLA, and WIR in 2023. The 2023 on-site camera monitoring program methods are described in Section 3.7.1.

5.4.1 RESULTS AND DISCUSSION

Full results of the on-site camera monitoring program are presented in Section 3.7.2 (Table 3.7-2). In 2023 arctic fox, red fox, grey wolf, and wolverine were detected on-site through the camera monitoring program (Table 5.4-1). Wolverine were recorded only on camera BR02 (located at the incinerator) on one occasion on January 26, passing through the area without accessing wastes (Photo 5.4-1). On this same day a wolverine was deterred using bear bangers on two occasions from the same area (see Section 9), reflecting the effectiveness of on-site monitoring cameras in identifying potential conflict when human observers are not around. Individual wolves were seen moving through the area at camera BR02 (at the incinerator) and BR04 (at the grey water discharge) on June 21 and February 26, respectively.

TABLE 5.4-1 CARNIVORE SPECIES DETECTED VIA ON-SITE CAMERA MONITORING, 2023

Species	Scientific Name	Camera Location[1]	Date	Behaviour
Wolverine	*Gulo gulo*	BR02	January 26	Walking
Red fox	*Vulpes vulpes*	BR03	February 15	Walking
Grey wolf	*Canis lupus*	BR04	February 26	Walking
Arctic fox	*Vulpes lagopus*	BR03	March 5	Walking
Arctic fox	*Vulpes lagopus*	BR06	March 13	Walking
Arctic fox	*Vulpes lagopus*	BR03	April 15	Walking
Arctic fox	*Vulpes lagopus*	BR03	May 22	Walking
Arctic fox	*Vulpes lagopus*	BR03	June 14	Walking
Grey wolf	*Canis lupus*	BR02	June 21	Walking
Arctic fox	*Vulpes lagopus*	BR03	July 18	Walking
Red fox	*Vulpes vulpes*	BR03	October 31	Walking
Red fox	*Vulpes vulpes*	BR05	November 24	Walking
Red fox	*Vulpes vulpes*	BR05	December 22	Inspecting camera
Red fox	*Vulpes vulpes*	BR03	December 30	Walking

[1] See Table 3.7-1 for camera location descriptions.

On-site camera monitoring in place by B2Gold Nunavut was effective at monitoring carnivore activity around site infrastructure. No individuals interacting with infrastructure in a way that may be harmful to wildlife were recorded at the on-site monitoring cameras in 2023, and as such no adaptive management measures were triggered by this program.

Photo 5.4-1 Wolverine at On-Site Monitoring Camera BR02 Waste Facility

5.5 REGIONAL CAMERA MONITORING

The regional camera monitoring program is described in Section 3.8. Remote cameras were deployed in July 2023. The cameras will be collected in July 2024 to ensure a full year of data collection and results will be provided in the 2024 annual WMMP Report.

5.6 INCIDENTAL OBSERVATIONS

All personnel are responsible for recording wildlife sightings in the camp's wildlife logs (Appendix-E). These logs provide an indication of the wildlife species that occur in proximity to and interact with the Back River Mine infrastructure, as described in Section 9.2.1.2 of the WMMP Plan (Sabina 2023a). Section 3.9 summarizes the number of personnel on site collecting incidental sightings.

5.6.1 METHODS

All personnel at the Back River Mine are expected to report observations of wildlife occurring around or interacting with the mine to the Environment Department. Incidental observation reports include location (GPS coordinates), date, time, species, number observed, behaviour, and any other descriptive information regarding the sighting.

Incidental observations were recorded in accordance with and using the data sheet provided in the *Incidental Wildlife Observations SOP* (Sabina 2022a).

5.6.2 RESULTS AND DISCUSSION

In 2023, incidental observations were made of grizzly bear, wolf, wolverine, arctic fox, moose, red fox, ermine, weasel, and unspecified fox species (Table 5.6-1; Appendix E). Incidental observations included 113 individuals over a total of 70 observation events. Of these incidental observation events, 43 sightings (accounting for 61% of observation events) were made from the Goose site, 24 sightings (accounting for 34% of observation events) were along the WIR, and 4 sightings (accounting for 6% of observation events) were from the MLA site.

Wolves were the most commonly observed species, with 30 sightings (accounting for 43% of observation events) and 64 individuals (57% of individuals observed). Wolves were detected near the Goose site (16 observation events) and along the WIR (14 observation events). Fox were the second most commonly observed species; fox were observed 15 times, 13 of which were at the Goose site and two along the WIR. Observations were typically of one individual, except for an adult and four pups that was observed 1.5 km away from the Goose site on July 16. One red fox observation was noted to be a cross fox, which is a partially melanistic colour variation of the red fox.

TABLE 5.6-1 SUMMARY OF INCIDENTAL OBSERVATIONS OF TERRESTRIAL MAMMALS IN 2023

Species	Scientific Name	General Locations	Observation Events	Estimated Number of Individuals[1]
Arctic Fox	*Vulpes lagopus*	Goose	1	1
Ermine	*Mustela erminea*	Goose	1	1
Grizzly Bear	*Ursus arctos horribilis*	Goose/MLA/WIR	5	8
Moose	*Alces Alces*	MLA/WIR	3	5
Red Fox	*Vulpes vulpes*	Goose/WIR	2	2
Weasel	*Mustela*	Goose	5	5
Grey Wolf	*Canis lupus*	Goose/WIR	30	64
Wolverine	*Gulo gulo*	Goose/WIR	11	11
Unspecified Fox[2]	-	Goose/WIR	12	16
Total			70	113

[1] Note that it is not possible to identify individuals and it is likely that some of the same animals observed were observed on multiple occasions.
[2] Observations were recorded as “fox”; therefore species (i.e., red fox or Arctic fox) is unknown.

Grizzly bear and wolverine are both assessed as Special Concern by COSEWIC and are listed as such on Schedule 1 of SARA (Government of Canada 2024). They are also both territorially ranked as vulnerable (NatureServe 2024). There were five observations of grizzly bears in 2023, four of which were of one individual. Grizzly bear sightings occurred in April (one sighting), May (three sightings), and September (one sighting) 2023. The earliest detection of Grizzly bear was April 20 when an individual was seen laying on Bathurst Lake, approximately 2 km from MLA forward camp. In May, three solo grizzly bears were observed between 1 km to 2 km away from

the MLA site. The fifth sighting was of a sow and three cubs, observed 400 m southwest of Echo Pit on September 26, 2023. This is the third year that a sow and cubs have been incidentally detected near the Goose site, with a sow and cub observed approximately 5 km west of Goose camp in 2022 and a sow and two cubs approximately 2 km north of Goose camp in 2021.

There were 11 observations of wolverine, all of which were of one individual. Wolverine sightings occurred in January (three sightings), February (three sightings), March (three sightings), and April (two sightings) 2023. Of the observations made, seven were made from the Goose site and five were made along the WIR. Wolverine were identified within camps on four occasions, three times at Goose camp (twice on January 26 and once on January 28) and once at Goose forward camp (March 1). Additionally, a wolverine was noted 350 m from MLA forward camp on February 2. All other observations from the Goose site were more than 600 m away.

Other terrestrial mammals observed incidentally included moose, weasel, and ermine. In 2023, five moose were incidentally observed over a total of three observation events. On February 10, two observations of one individual approximately 1 km away from the WIR were recorded: once near KM23 and once near MLA forward camp at KM64. Additionally, three individuals were observed on May 31 approximately 2 km from MLA camp. An area west of Bathurst Inlet, stretching north from Bathurst Lake to just south of the MLA was identified by the KIA as a preferred moose hunting area by Inuit. To date, moose have not been observed to the south of Bathurst Inlet at the Goose site. Weasel and ermine were only observed at the Goose site, with all observations made within the site footprint.

6. MIGRATORY BIRDS

Migratory birds include waterbirds and upland birds. Waterbirds are defined as birds that primarily forage within waterbodies. The Arctic waterbird community is comprised of geese, tundra swan, several species of dabbling and diving ducks, gulls, Arctic tern, four species of loons, and sandhill crane. Upland birds are defined as birds that primarily forage and nest in upland areas. The Arctic upland bird community is comprised of songbirds, shorebirds, ptarmigan, and jaegers.

6.1 FEIS PREDICTIONS

The predicted residual effects of the Back River Mine on migratory birds as identified in the FEIS included:

- Habitat loss (not significant, low magnitude); and
- Disturbance (not significant, low magnitude).

Mitigation and management measures to reduce the potential for these effects to result in residual effects on migratory birds are discussed in Sections 11 and 12 of the WMMP Plan.

6.2 PRE-CLEARING SURVEYS

Where possible, construction activities are scheduled to occur outside of the Arctic bird breeding season of May 15 and August 15. If avoidance is not possible, then pre-clearing bird nest surveys are conducted as detailed in Section 11.2.1.2 of the WMMP Plan (Sabina 2023a). Pre-clearing surveys are aimed at identifying active bird nests that are at risk of disturbance from construction activities and thereby trigger appropriate management as described in Section 11.1.3.2 of the WMMP Plan (Sabina 2023a).

During 2023, ground clearing was required during the bird breeding season in July and early August; therefore, pre-clearing surveys were required. Four survey transects were completed prior to ground clearing activities (described below) and no nests were observed.

6.2.1 METHODS

Pre-clearing surveys are conducted prior to construction occurring during the bird breeding season to ensure all nests in the area are located (e.g., in case of new nest construction) and occupancy status is confirmed. Straight line transects stratifying the proposed disturbance area were walked by two observers looking for birds and signs of nesting. For areas with ponds and lakes, transect lines were concentric circles around the waterbody.

Where potential nesting was noted, observers slowly and carefully searched the immediate area for a nest. Observers are to be vigilant to not disturb the nest or linger too long in the nesting area, as to not disturb the nesting bird. A setback buffer is established around any active nests and potentially active nesting locations identified. Buffer size follows those described in Table 6.2-1, with the nesting location in the center of the buffer. Follow up surveys are completed weekly for all buffered nests to determine when young have left the nest. The buffer can be removed and the area cleared if the nest stage is determined to be fledged (nest empty, no young in area, no signs of predation), depredated (nest disturbed, egg/nesting fragments), or abandoned. If the actual nest was not found then the area should remain buffered and avoided until mid-August.

TABLE 6.2-1 RECOMMENDED NEST BUFFER SIZES

Bird Group	Recommended Buffer Size[1]
Gulls and Terns	300 m
Ducks	150 m
Geese	500 m
Loons, Tundra Swan, and Sandhill Crane	50 – 100 m
Songbirds	100 m
Shore Birds	100 – 300 m
Ground-nesting Raptors	1.5 km[2]

[1] If the suggested buffer cannot be implemented for logistical reasons, the Environment Manager will ensure that a minimum buffer of at least 30 m will be enforced and the reason will be recorded and reported.
[2] If 1.5 km is not feasible, a minimum buffer of 100 m will be set up around the nest site.

General survey information recorded included date, start and end time, start and end location, temperature, wind, and cloud cover. Where potential or active nests were identified, the transect, bird group, species, nest clue, nest stage, nest content (number of eggs or young), nest location, and associated buffer are recorded.

Bird pre-clearing surveys were conducted in accordance with and using the data sheet provided in the *Pre-Clearing Nest Surveys for Land Clearing Pre-construction, Construction SOP* (Sabina 2020d), including recommended buffer size and mitigative measures for all identified nests.

6.2.2 RESULTS AND DISCUSSION

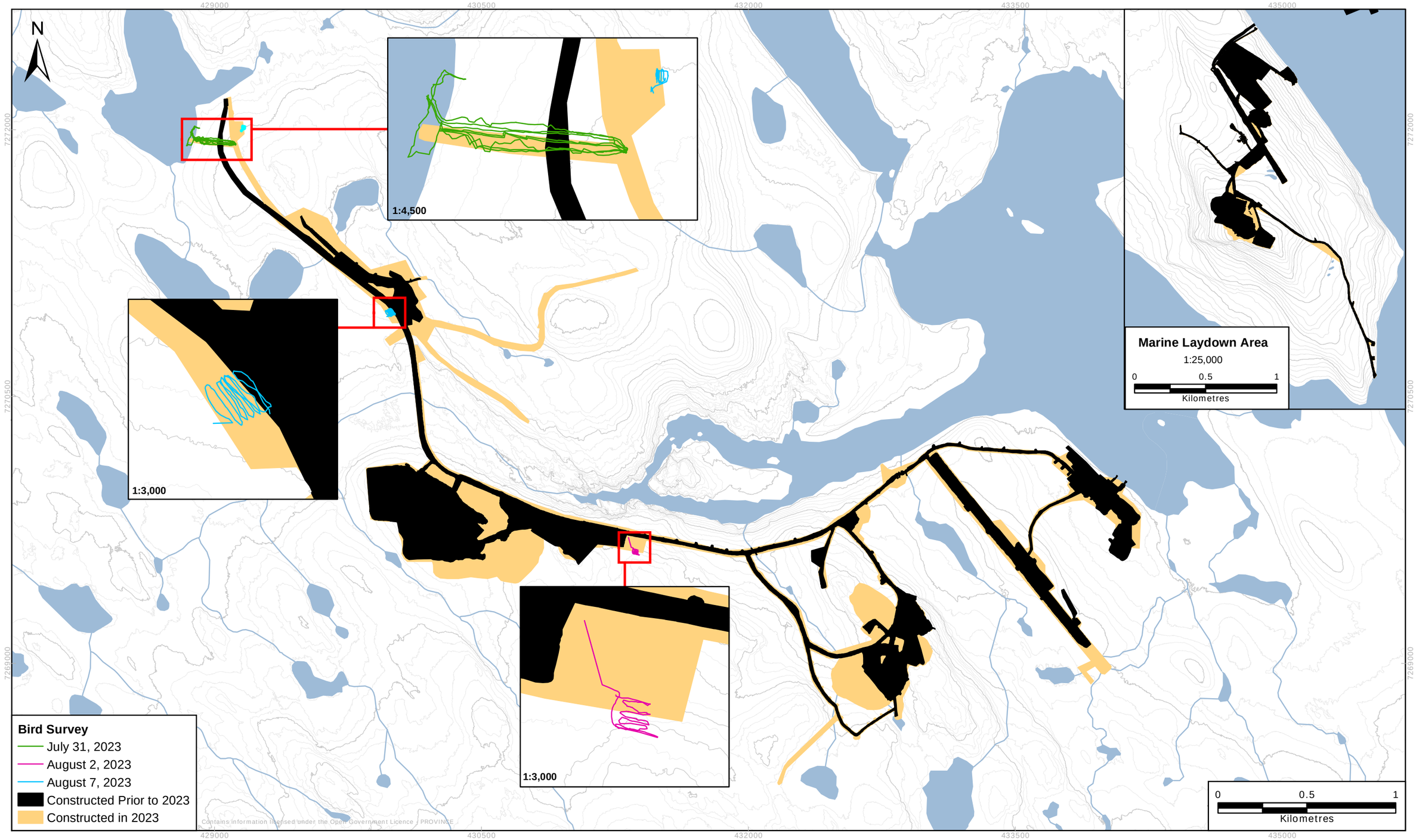
Pre-clearing surveys for birds (including raptors and migratory birds) were conducted on July 31, August 2, and August 7, 2023 (Figure 6.2-1). Pre-clearing surveys were completed for 0.93 ha prior to disturbance occurring at the Goose site. Surveys did not identify any potential or active nests, and as such no buffers were required. Surveys were conducted the same day as, or one day prior to, ground clearing in all cases.

Pre-clearing surveys were effective at ensuring all nests were located in areas where disturbance was planned during the bird breeding season. No nests were observed, and no additional mitigation was required in 2023.

6.3 WATERBIRD MONITORING IN PONDS

Monitoring of on-site ponds are completed to determine if waterbirds are using the TSF or other on-site ponds as described in Section 11.2.1.1 of the WMMP Plan (Sabina 2023a). Observations of waterbirds in on-site ponds where the water quality does not meet wildlife water quality guidelines will trigger mitigation to exclude the wildlife from the ponds, as described in Section 11.1.7 of the WMMP Plan (Sabina 2023a).

FIGURE 6.2-1 PRE-CLEARING BIRD SURVEY TRANSECTS, 2023



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As of 2023, the TSF or other on-site ponds have not been constructed at the mine. As a result, waterbird monitoring in ponds was not completed in 2023 and is anticipated to begin once on-site ponds are constructed.

6.4 WATERBIRD POPULATION MONITORING

Regional monitoring for waterbirds will be completed to evaluate if waterbirds are disturbed or otherwise affected by the Back River Mine, resulting in reduced density or breeding success near the mine site, as described in Section 11.2.2.2 of the WMMP Plan (Sabina 2023a). Results indicating fewer waterbirds near the mine will trigger a review of site activities to identify if there are adaptive management actions that can reduce any potential disturbance to waterbirds.

Waterbird population monitoring was not completed in 2023 and is scheduled to begin in 2024 during year two of construction.

6.5 UPLAND BREEDING BIRD POPULATION SURVEYS

Regional monitoring for upland birds will be completed to determine if upland birds are avoiding the mine site, as described in Section 12.2.2.2 of the WMMP Plan (Sabina 2023a). Results indicating fewer upland birds near the mine will trigger a review of site activities to identify if there are adaptive management actions that can reduce any potential disturbance to upland birds.

Upland breeding bird population monitoring was not completed in 2023 and is anticipated to begin in 2024 during year two of construction.

6.6 MARINE BIRD POPULATION SURVEYS – BATHURST INLET

Regional marine bird monitoring will be completed to evaluate potential effects of the mine on the local population of marine birds, measured as a ZOI of altered numbers of staging, breeding birds, and/or breeding success surrounding the mine site, as described in Section 13.2.2.2 of the WMMP Plan (Sabina 2023a).

Marine bird population monitoring was not completed in 2023 and is anticipated to begin in 2024 during year two of construction.

6.7 INCIDENTAL OBSERVATIONS

All personnel are responsible for recording wildlife sightings in the camp's wildlife logs (Appendix E). These logs provide an indication of the wildlife species that occur in proximity to and interact with the Back River Mine infrastructure, as described in Sections 11.2.1.4 and 12.2.1.3 of the WMMP Plan (Sabina 2023a). Section 3.9 summarizes the number of personnel on site collecting incidental sightings.

6.7.1 METHODS

All personnel at the Back River Mine are expected to report observations of wildlife occurring around or interacting with the mine to the Environment Department. Incidental observation reports include location (GPS coordinates), date, time, species, number observed, behaviour, and any other descriptive information regarding the sighting.

Incidental observations were recorded in accordance with and using the data sheet provided in the *Incidental Wildlife Observations SOP* (Sabina 2022a).

6.7.2 RESULTS AND DISCUSSION

In 2023, there were nine incidental observations recorded of waterbirds and upland birds, all of which were made from the Goose site (Table 6.7-1; Appendix E). Incidental observations included 250 individuals from four species: willow ptarmigan (one sighting of 20 birds in February), rock ptarmigan (two sighting of 20 birds and 16 birds in September and October, respectively), Canada goose (*Branta canadensis*; four sightings of three to 100 birds in September to October), and tundra swan (one sighting of five birds in September; Table 6.7-1). Additionally, 20 individuals from an unspecified ptarmigan species were incidentally observed in February (Table 6.7-1).

Incidental observations of birds were primarily made in the fall (August to October), accounting for seven sightings (78% of observation events) and 230 individuals (85% of individuals observed). Geese and swans were only detected in the fall, which varies slightly from previous years that had incidental observations in both the spring and fall. The largest group of birds was of 100 Canada geese on August 10 flying over Goose camp, followed by an observation of 75 Canada geese on September 26 flying over Goose camp. Bird species including common raven, rock ptarmigan, unspecified ptarmigan, and Canada goose were also recorded via on-site monitoring cameras (see Section 3.7.2). No species was observed interacting directly with infrastructure other than common raven which were recorded attempting to access waste at camera BR02 (located at the incinerator) while it was being unloaded from vehicles into indoor storage.

TABLE 6.7-1 INCIDENTAL OBSERVATIONS OF MIGRATORY BIRDS IN 2023

Species	Scientific Name	Observation Events	Estimated Number of Individuals
Canada Goose	*Branta canadensis*	4	189
Rock Ptarmigan	*Lagopus muta*	2	36
Tundra Swan	*Cygnus columbianus*	1	5
Willow Ptarmigan	*Lagopus lagopus*	1	20
Unspecified Ptarmigan[1]	-	1	20
Total		**9**	**270**

[1] Observation was recorded as “ptarmigan”; therefore, species is unknown.

7. RAPTOR MITIGATION AND MONITORING

Arctic-breeding raptors nest either on steep faces of rock outcrops, or on the ground. Four species of cliff-nesting raptors may breed in the wildlife RSA: peregrine falcon (*Falco peregrinus tundrius*), gyrfalcon (*Falco rusticolus*), rough-legged hawk (*Buteo lagopus*), and golden eagle (*Aquila chrysaetos*). Three ground-nesting raptor species may occur in the wildlife RSA: snowy owl (*Bubo scandiacus*), short-eared owl (*Asio flammeus*), and northern harrier (*Circus cyaneus*).

7.1 FEIS PREDICTIONS

The predicted residual effects of the Back River mine on raptors as identified in the FEIS included:

- Habitat loss (not significant, low magnitude);
- Disturbance (not significant, low magnitude);
- Direct mortality and injury (not significant, low magnitude);
- Attraction (not significant, low magnitude); and
- Reduction in reproductive productivity (not significant, low magnitude).

Mitigation and management measures to reduce the potential for these effects to result in residual effects on raptors are discussed in Section 10 of the WMMP Plan.

7.2 PRE-CLEARING SURVEYS FOR GROUND-NESTING RAPTOR NESTS

Where possible, construction activities are scheduled to occur outside of the raptor breeding season of April 15 to August 15. If avoidance is not possible, then pre-clearing raptor nest surveys are conducted, as described in Section 10.2.1.2 of the WMMP Plan (Sabina 2023a) and the *Pre-Clearing Nest Surveys for Land Clearing Pre-construction, Construction SOP* (Sabina 2020d). Pre-clearing surveys are aimed at identifying active raptor ground nests that are at risk of disturbance from construction activities and thereby trigger appropriate management as described in Section 10.1.3 of the WMMP Plan (Sabina 2023a).

7.2.1 METHODS

Pre-clearing surveys are conducted prior to construction occurring during the raptor breeding season to ensure all nests in the area are located (e.g., in case of new nest construction) and occupancy status is confirmed. Straight line transects stratifying the proposed disturbance area were walked by two observers looking for birds and signs of nesting, as described in Section 6.2.

Where potential nests are noted, observers slowly and carefully search the immediate area for a nest, and a setback buffer is established around any active nests and potentially active nesting locations identified. Buffer size follows those described in Table 6.2-1, with the nesting location in the center of the buffer. Follow up surveys are completed weekly, following methods described in Section 6.2.

Bird pre-clearing surveys were conducted in accordance with and using the data sheet provided in the *Pre-Clearing Nest Surveys for Land Clearing Pre-construction, Construction SOP* (Sabina 2020d), and described in further detail in Section 6.2.1, including recommended buffer size and mitigative measures for all identified nests.

7.2.2 RESULTS AND DISCUSSION

Pre-clearing surveys for birds completed in 2023 are described in Section 6.2.2. No raptor nests were identified during pre-clearing surveys in 2023, and therefore no mitigation or buffers were required.

Pre-clearing surveys were effective at ensuring all nests in the area were located in areas where disturbance was planned during the bird breeding season. No nests were observed, and no additional mitigation was required in 2023.

7.3 PIT AND QUARRY WALL NEST MONITORING

The pit and quarry wall nest monitoring program is aimed at identifying active raptor nests at risk of disturbance from blasting activities, and to implement mitigation to exclude raptors prior to nest building, as described in Section 10.2.1.1 of the WMMP Plan (Sabina 2023a). Nest monitoring at pit and quarry sites will be conducted prior to and during the raptor nesting period if blasting is planned, to ensure that adults are excluded and cannot build nests.

Pit and quarry wall nest monitoring was not completed in 2023 as pit or quarry walls were too low to be suitable for raptor nesting. Monitoring is anticipated to begin in 2024, or once pit or quarry walls are tall enough to be suitable for raptor nesting.

7.4 REGIONAL SURVEYS FOR RAPTOR NESTS

Regional monitoring for raptors will be completed to evaluate if raptors are disturbed by mine activities, resulting in lower nesting success, as described in Section 10.2.2.2 of the WMMP Plan (Sabina 2023a). Results indicating lower breeding success by raptors near the mine site will trigger a review of site activities to identify if there are adaptive management activities that can reduce any potential disturbance to raptors.

Raptor nest occupancy and productivity monitoring is scheduled to occur in 2024 (year two of construction).

7.5 INCIDENTAL OBSERVATIONS

All personnel are responsible for recording wildlife sightings in the camp's wildlife logs (Appendix E). These logs provide an indication of the wildlife species that occur in proximity to and interact with the Back River Mine infrastructure, as described in Section 10.2.1.4 of the WMMP Plan (Sabina 2023a). Section 3.9 summarizes the number of personnel on site collecting incidental sightings.

7.5.1 METHODS

All personnel at the Back River Mine are expected to report observations of wildlife occurring around or interacting with the mine to the Environment Department. Incidental observation reports include location (GPS coordinates), date, time, species, number observed, behaviour, and any other descriptive information regarding the sighting.

Incidental observations were recorded in accordance with and using the data sheet provided in the *Incidental Wildlife Observations SOP* (Sabina 2022a).

7.5.2 RESULTS AND DISCUSSION

In 2023, five incidental observations of raptors were recorded, including three rough-legged hawks, one falcon, and one unspecified raptor species (Appendix E). All rough-legged hawk observations were made along the WIR in April 2023. The falcon and unspecified small raptor were both observed near the Goose site later in the year (September and November). No raptor nests were observed in 2023.

8. MARINE MAMMAL MONITORING

Management and monitoring activities for marine mammals that occurred in 2023 included the following:

- Marine shipping monitoring and management for marine mammals and marine birds; and
- Incidental observations of marine mammals.

In 2023, Sabina did not construct the on-ice airstrip at the MLA; therefore, no pre-construction surveys for seal lairs were required, but are also discussed below.

8.1 FEIS PREDICTIONS

Ringed seal was chosen as a representative species for the marine mammal community in the FEIS, because TK and baseline surveys indicated that this species was the primary species to occupy habitats within the assessment area of the FEIS. With implementation of mitigative measures no predicted residual effects on ringed seals were identified in the FEIS. Mitigation and management measures to reduce potential effects on ringed seals are discussed in Section 14 of the WMMP Plan.

8.2 MARINE SHIPPING MITIGATION AND MONITORING

NIRB Conditions #58 and #64 require B2Gold Nunavut to mitigate impacts and disturbance to marine mammals and marine birds during shipping.

The objectives of the marine mammal and seabird monitoring program during shipping include the following:

- Record incidental observations of seabirds and marine mammals in the Northwest Passage made by bridge staff;
- Document and report measures taken to mitigate impacts to marine mammals and large groups of seabirds, if required; and
- Document and report ship strikes of marine mammals or seabirds, if they occurred.

B2Gold Nunavut distributes a marine shipping SOP and Shipping Management Guidelines brochure to the shipping companies to review prior to transit to Bathurst Inlet to ensure captains and crew are aware of B2Gold Nunavut's Project Conditions (Appendix A).

8.2.1 METHODS

8.2.1.1 VESSEL TRACKS

B2Gold Nunavut provided a list of vessel names and dates of delivery for shipments to the Back River Mine's MLA. Each vessel is required by Transport Canada to transmit Automatic Identification System (AIS) data via a transceiver on board. These data are used by other vessels and Vessel Traffic Services to monitor vessel movements. ERM acquired archived AIS data from Vesseltracker, a commercial AIS supplier that aggregates AIS data from satellite and shore-based stations. These data vary in frequency based on distance from shore, location of shore-based stations, and position of satellites. In some cases, AIS position data are available on an hourly or sub-hourly basis, but in

other cases, position data can be 12 hours or more between fixes. Tracks for the vessel names and dates provided by B2Gold Nunavut were downloaded from Vesseltracker (Vesseltracker GmbH 2023) and plotted using ArcGIS 10.8.2. Only vessels traveling to the Back River Mine's MLA are presented in this report.

8.2.1.2 MARINE MAMMAL AND SEABIRD OBSERVATIONS

Prior to the 2023 shipping season, B2Gold Nunavut provided an SOP to the shipping contractors, which describes the management and monitoring requirements for the mine (Sabina 2023c).

During 2023, incidental marine mammal and seabird sightings were required to be recorded by crew members on the vessels. Data collected included the following:

- Date and time of sighting;
- Vessel information such as name, speed, heading, and location;
- Environmental information such as wind and visibility; and
- Sightings information, including the species, distance from vessel, number of individuals, behaviour, whether there was a ship strike, and any mitigation action.

8.2.2 RESULTS AND DISCUSSION

8.2.2.1 VESSEL ACTIVITY AND SURVEY EFFORT

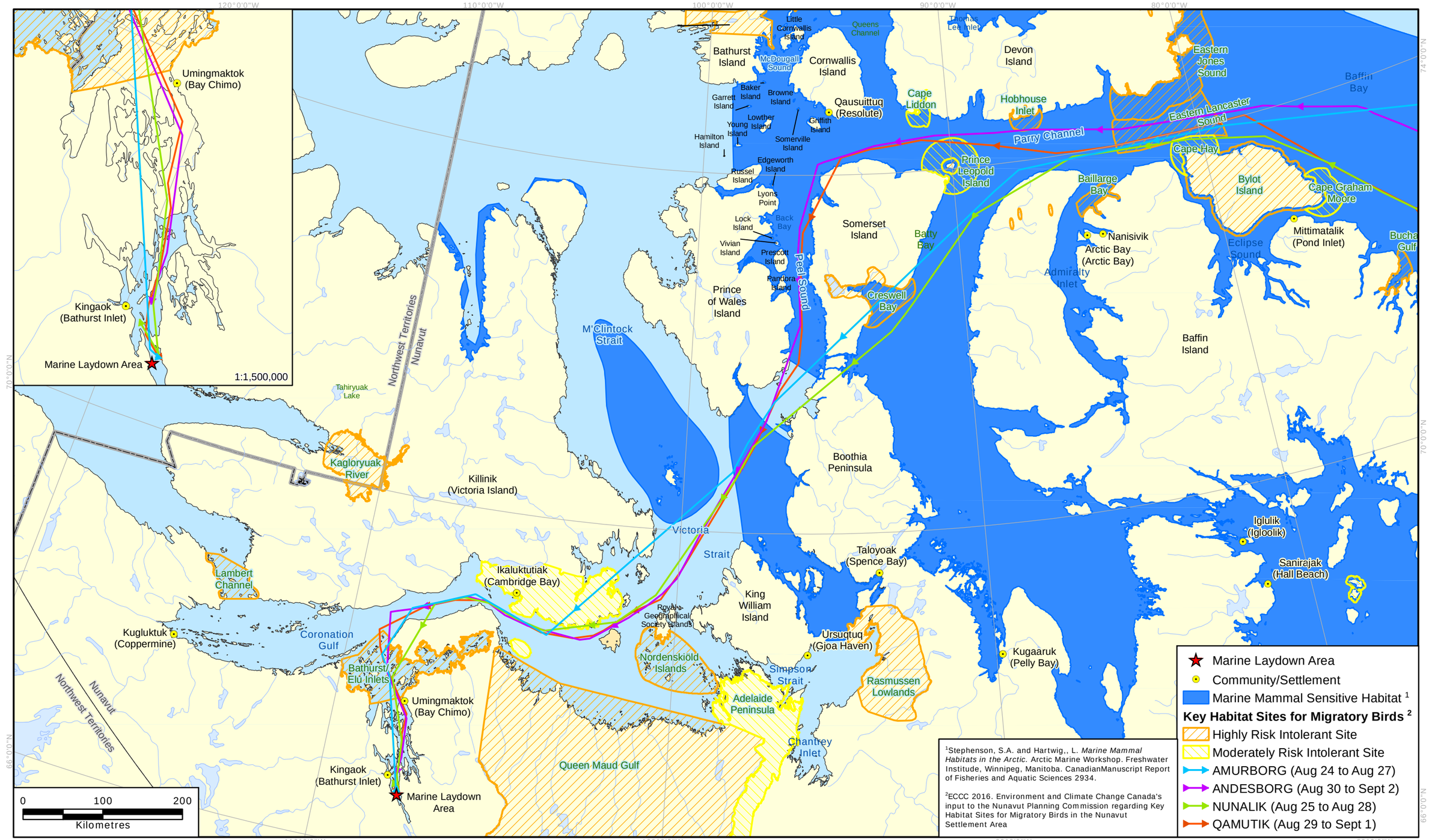
During 2023, there were nine vessel sailings servicing the Back River Mine, summarized in Table 8.2-1, Figure 8.2-1, and Figure 8.2-2. There was one trip that traveled from the west (Tuktoyaktuk, Northwest Territories) to the MLA, and the remaining eight travelled from the east to the MLA. Vessel tracks broadcast using AIS vessel positioning were downloaded from Vesseltracker (2023) and plotted using ArcGIS 10.8.2 (Figures 8.2-1 and 8.2-2).

TABLE 8.2-1 VESSELS TRAVELING TO THE MLA, AUGUST AND SEPTEMBER 2023

Vessel Name	Shipping Route	Date Departed Original Port	Date Arrived in MLA	Date Departed MLA
Gaia Desgagnes	Eastern Route	September 2	September 14	September 20
Rossi A Desgagnes	Eastern Route	September 7	September 22	September 24
Amurborg	Eastern Route	August 3	August 27	September 20
Andesborg	Eastern Route	August 18	September 2	September 20
Andesborg[1]	Western Route	NA	September 26	September 27
Pacific Excellence	Eastern Route	-[2]	September 11	September 14
Nunalik	Eastern Route	August 17	August 28	September 5
Qamalik	Eastern Route	August 22	September 1	September 5
Zelada Desgagnes	Eastern Route	August 31	September 20	September 24

[1]This vessel did a short voyage to Wise Bay and back to the MLA.
[2]No date provided.

FIGURE 8.2-1 VESSEL TRACKS DURING SHIPPING SEASON, AUGUST 2023



[1]Stephenson, S.A. and Hartwig,, L. *Marine Mammal Habitats in the Arctic.* Arctic Marine Workshop. Freshwater Institude, Winnipeg, Manitoba. CanadianManuscript Report of Fisheries and Aquatic Sciences 2934.

[2]ECCC 2016. Environment and Climate Change Canada's input to the Nunavut Planning Commission regarding Key Habitat Sites for Migratory Birds in the Nunavut Settlement Area

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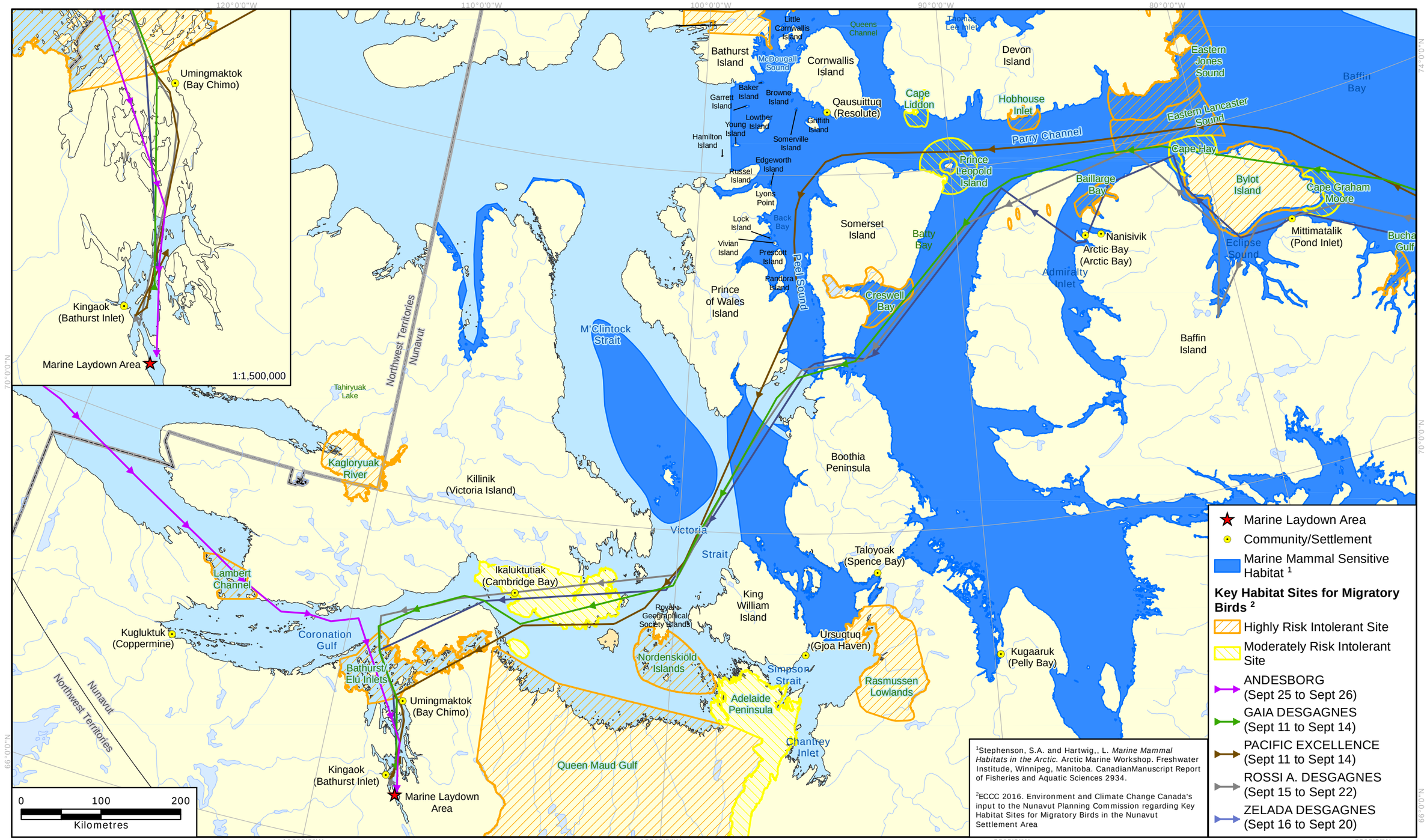
FIGURE 8.2-2 VESSEL TRACKS DURING SHIPPING SEASON, SEPTEMBER 2023



[1]Stephenson, S.A. and Hartwig,, L. *Marine Mammal Habitats in the Arctic.* Arctic Marine Workshop. Freshwater Institude, Winnipeg, Manitoba. CanadianManuscript Report of Fisheries and Aquatic Sciences 2934.

[2]ECCC 2016. Environment and Climate Change Canada's input to the Nunavut Planning Commission regarding Key Habitat Sites for Migratory Birds in the Nunavut Settlement Area

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During 2023, marine mammal and seabird sightings were recorded by crew members on five of the vessels: the *Gaia Desgagnes*, *Rossi A. Desgagnes, Nunalik, Qamalik*, and the *Pacific Excellence* between August 27 and September 27. These five vessels traveled along the eastern shipping route. No sightings were recorded during the remaining four sailings in 2023.

Vessel crew onboard ships servicing the Back River Mine are required to collect incidental sightings of marine mammals and seabirds during their voyage. However, some vessels conducted dedicated surveys while transiting, which is not a requirement for the Back River Mine. In August and September, 80 surveys (45 seabird surveys and 35 marine mammal surveys) were completed totaling approximately 58 hours of observation time while travelling along the eastern shipping route. Of the 45 seabird surveys, 36 were completed while the vessel was moving and the remaining nine while the vessel was anchored. Similarly, 27 of the 35 marine mammal surveys were completed while the vessel was moving, and the remaining eight while the vessel was anchored. Marine mammals or seabirds were recorded during 26 of the 80 surveys. None of the sightings indicated requirements for management activity.

8.2.2.2 MARINE MAMMAL SIGHTINGS

During 2023, 14 separate marine mammal sightings were recorded by crew members on the *Gaia Desgagnes, Nunalik, Qamutik,* and the *Pacific Excellence* between August 29 and September 16. Six marine mammal species were observed over 11 separate sightings: one sighting each of bowhead whale (*Balaena mysticetus*), ringed seal, harp seal (*Pagophilus groenlandicus*), and harbour seal (*Phocena vitulina*), two sightings of bearded seals (*Erignathus barbatus*), three sightings hooded seals (*Cystophora cristata)* and two sightings of unknown seal species (Table 8.2-2; Figure 8.2-3; Appendix F). The remaining three sightings were recorded as fur seal (*Callorhinus ursinus*) sightings; however, these were likely all misidentifications by the crew members (all sightings were from the same vessel), as the shipping route is outside of the range of fur seals.

TABLE 8.2-2 INCIDENTAL OBSERVATIONS OF MARINE MAMMALS DURING SHIPPING IN AUGUST AND SEPTEMBER 2023

Species	Scientific Name	Number Observed	Behaviour
Bowhead Whale[1]	*Balaena mysticetus*	1	Swimming/Blow
Bearded Seal	*Erignathus barbatus*	1	Swimming
		2	Swimming
Fur Seal[2]	*Callorhinus ursinus*	1	Swimming/Diving
		1	Swimming/Diving
		1	Swimming/Diving
Ringed Seal[1]	*Pusa hispida*	5	Swimming
Harp Seal	*Pagophilus groenlandicus*	20	Swimming

Species	Scientific Name	Number Observed	Behaviour
Hooded Seal	*Cystophora cristata*	18	Diving
		1	Swimming
		1	Swimming
Harbour Seal	*Phoca vitulina*	1	Swimming
Unknown Seal	-	1	Swimming
		1	Swimming

[1]COSEWIC status “Special Concern”.
[2]It is unlikely that fur seals were observed and these sightings are likely all misidentifications, as the shipping route is outside of the range of fur seals.

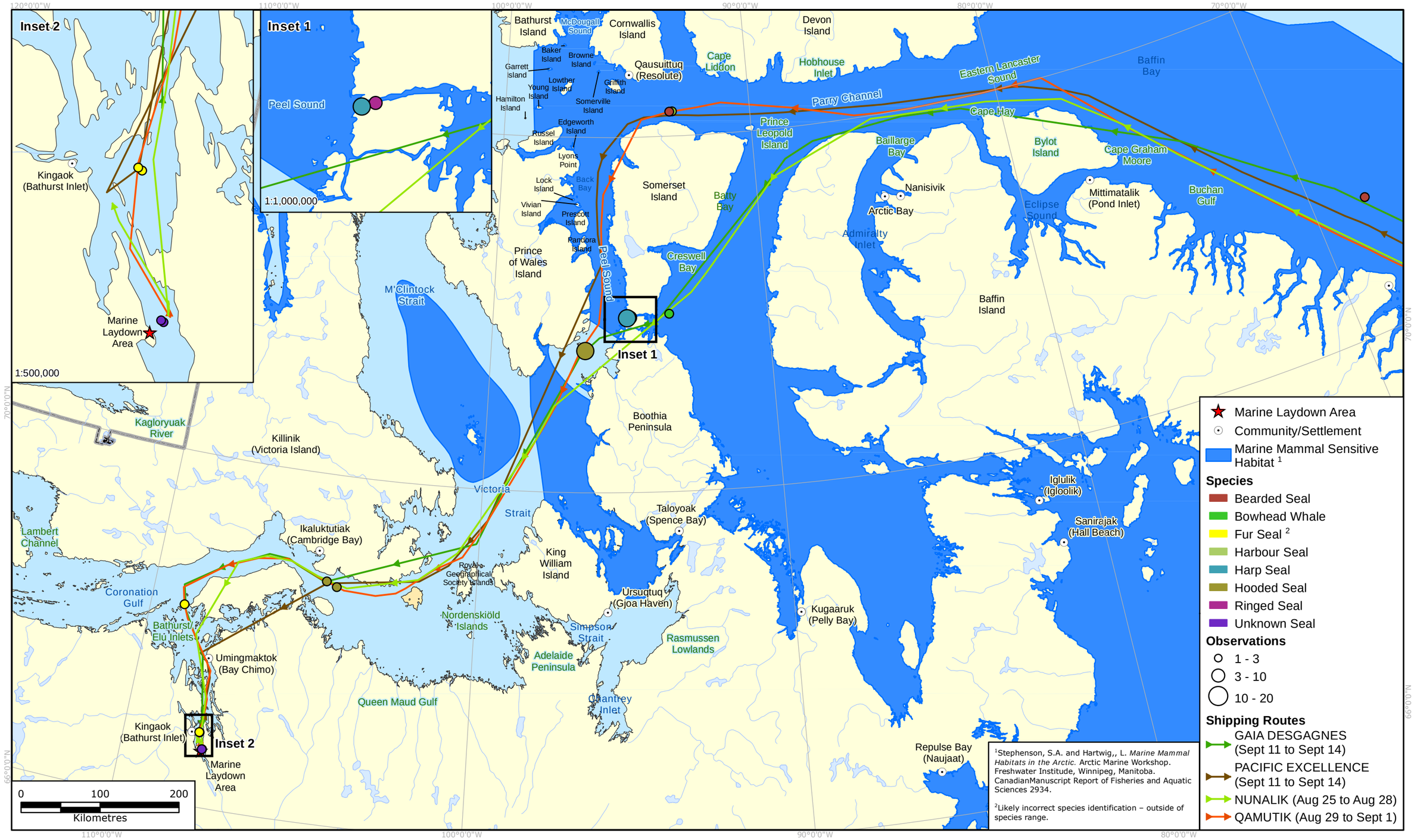
The bowhead whale was observed in Prince Regent Inlet, which is part of their summer range, on September 12 (Figure 8.2-3). Bowheads from the Eastern Canada-West Greenland population are listed as Special Concern by COSEWIC. The two sightings of unidentified seals were in Bathurst Inlet near the MLA (Figure 8.2-3), one individual observed on August 31, and one on September 4. In addition, the misidentified fur seals were also observed in Bathurst Inlet, further from the MLA (Figure 8.2-3). It is likely that these were ringed seals or bearded seals. No mitigative measures or ship strikes were recorded incidentally or through dedicated survey, and as such no adaptive management measures were triggered by this program.

8.2.2.3 SEABIRD SIGHTINGS

During 2023, 39 separate bird sightings of 216 individual birds were recorded by crew members on the five vessels (*Gaia Desgagnes, Rossi A. Desgagnes, Nunalik, Qamutik,* and the *Pacific Excellence*) between August 27 and September 27. A total of 12 bird species were observed that were identified to species: northern fulmar (*Fulmarus glacialis*), Iceland gull (*Larus glaucoides*), herring gull (*Larus argentatus*), common loon (*Gavia immer)*, long-tailed duck (*Clangula hyemalis)*, pomarine jaeger (*Stercorarius pomarinus*), black guillemot (*Cepphus grille*), black-legged kittiwake (*Rissa tridactyla*), razorbill (*Alca torda*), common raven (*Corvus corax*), cackling goose (*Branta hutchinsii*), and Canada goose (Table 8.2-3; Figure 8.2-4; Appendix F). One sighting of an unknown ptarmigan, a sighting of 12 unknown blackbirds, three sightings of unknown birds (five individuals over three separate sightings), and unknown gulls (five individuals over two separate sightings) were also observed.

The most commonly observed bird species was Canada goose (82 individuals observed over five separate sightings). Two of the Canada goose sightings of large groups (one group of 30, one group of 40 animals) occurred at the MLA and it is possible that some animals were counted twice. Following Canada goose as the most commonly observed bird species were razorbills (30 individuals observed over two separate sightings), Iceland gull (18 individuals observed over four separate sightings), northern fulmar (17 individuals observed over eight separate sightings), and common loon (one sighting of 15 individuals). None of the species observed in 2023 are federally listed on *SARA* Schedule 1 (Government of Canada 2024) or territorially listed (CESCC 2020). The only observations recorded within Bathurst Inlet were the two sightings of Canada geese, three sightings of common ravens (both near the MLA), and one sighting of a northern fulmar (Figure 8.2-4).

FIGURE 8.2-3 MARINE MAMMAL OBSERVATIONS DURING SHIPPING, AUGUST AND SEPTEMBER, 2023



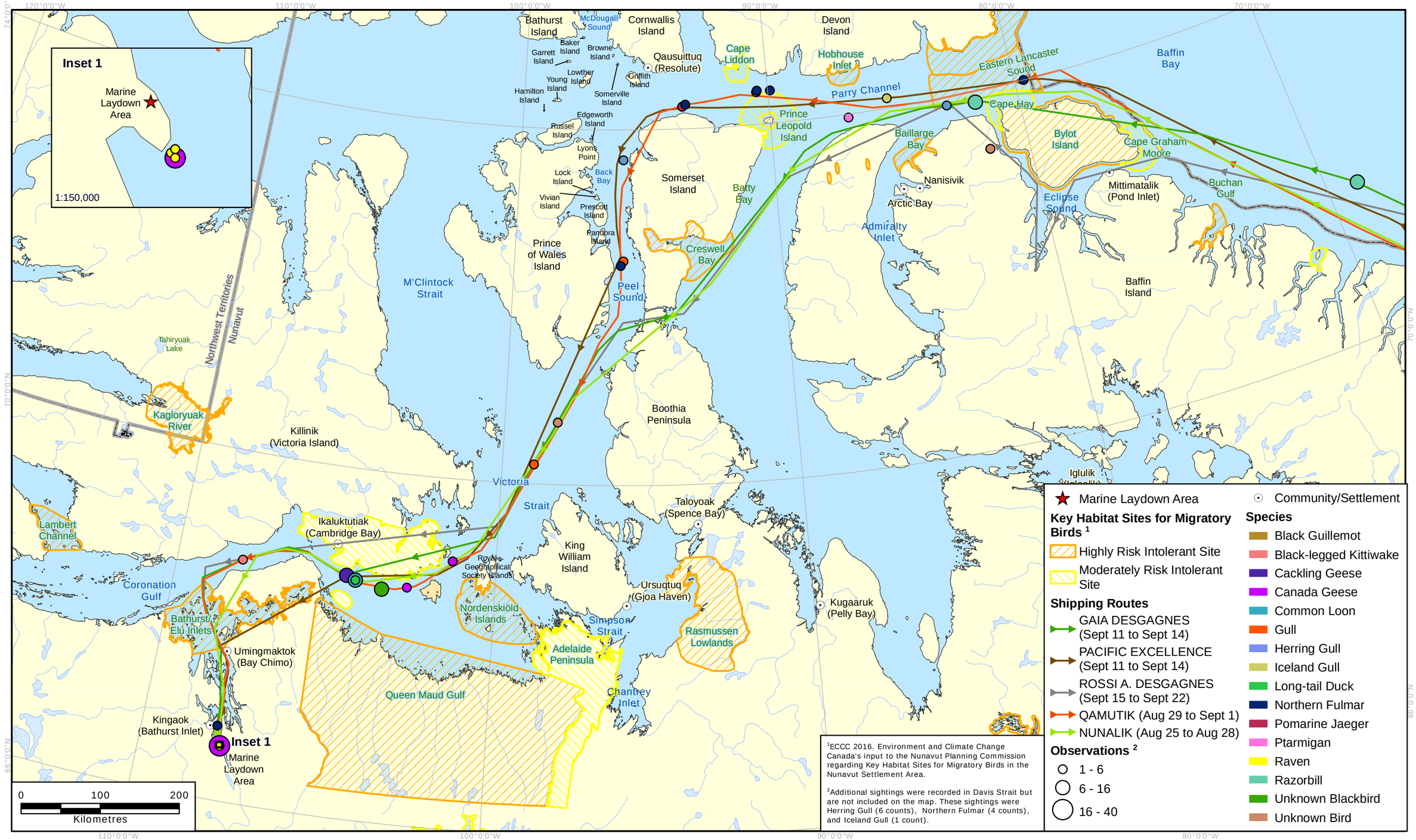
ERM

CLIENT: B2Gold
GIS NUMBER: BAC-23-605a

DATE: 03/04/2024

PROJECTION: Canada Lambert Conformal Conic
SCALE: 1:4,500,000 when printed at 11x17

FIGURE 8.2-4 SEABIRD OBSERVATIONS DURING SHIPPING, AUGUST AND SEPTEMBER, 2023



ERM

CLIENT: B2Gold
GIS NUMBER: BAC-23-605b

DATE: 03/06/2024

PROJECTION: Canada Lambert Conformal Conic
SCALE: 1:4,500,000 when printed at 11x17

TABLE 8.2-3 OBSERVATIONS OF SEABIRDS DURING SHIPPING, AUGUST AND SEPTEMBER 2023

Species	Scientific Name	Number Observed	Behaviour
Iceland Gull	*Larus glaucoides*	1	Flying
		4	Flying
		5	Flying
		8	Flying
Herring Gull	*Larus argentatus*	6	Flying
		2	Flying
		4	Flying
Canada Goose	*Branta canadensis*	30	Flying
		40	Swimming
		5	Flying
		2	Rafting
		5	Flying
Cackling Goose	*Branta hutchinsii*	7	-
Kittiwake	*Rissa tridactyla*	2	Flying
Northern Fulmar	*Fulmarus glacialis*	1	Flying
		4	Flying
		2	Flying
		2	Rafting
		1	Flying
		1	Flying
		1	Flying
		5	Rafting
Razorbill	*Alca torda*	16	Feeding
		14	Feeding
Black Guillemot	*Cepphus grylle*	3	Rafting
Common Loon	*Gavia immer*	15	Flying
Long-tailed Duck	*Clangula hyemalis*	1	Resting on Water
Pomarine Jaeger	*Stercorarius pomarinus*	1	Flying
Common Raven	*Corvus corax*	2	Resting on Ship
		1	Flying/Land on Ship
		1	Flying/Land on Ship
		1	Flying
Ptarmigan Species	-	1	Resting on Ship
Unknown Blackbird	-	12	Flying
Unknown Gull	-	2	Flying
		3	Flying

Species	Scientific Name	Number Observed	Behaviour
Unknown Bird	-	3	Flying
		1	Flying
		1	Flying

No mitigative measures or ship strikes were recorded incidentally or through dedicated survey, and as such no adaptive management measures were triggered by this program.

8.3 SEAL LAIR MITIGATION AND MONITORING

In 2023, B2Gold Nunavut did not construct the on-ice airstrip at the MLA; therefore, no pre-construction surveys were required.

As part of the operation of the MLA, B2Gold Nunavut may construct an on-ice landing strip for aircraft on the sea ice in front of the MLA and may construct a WIR to transport equipment and supplies from the MLA to the Goose site. The WIR travels south on sea ice from the MLA to the mouth of the Western River before heading inland. Construction of both on-ice infrastructure is generally scheduled for December and January of each year they are required, which is prior to the seal pupping season (which begins approximately February 15).

NIRB Condition #63 and Section 14.1.3 of the WMMP Plan (Sabina 2023a) indicate that if construction of the on-ice landing strip or the WIR occurs during the seal pupping period (i.e., after February 15), then pre-construction surveys will be conducted, and construction will be altered to avoid any identified seal lairs. As construction of the WIR between the MLA and the Western River occurred prior to February 15 in 2023, no pre-construction surveys were required.

8.4 INCIDENTAL OBSERVATIONS

All personnel are responsible for recording wildlife sightings in the camp's wildlife logs (Appendix E). These logs provide an indication of the wildlife species that occur in proximity to and interact with the Back River Mine. Section 3.9 summarizes the number of personnel on site collecting incidental sightings.

8.4.1 METHODS

All personnel are expected to report incidental observations of marine mammals. Incidental observation reports include location (GPS coordinates), date, time, species, number observed, behaviour, and any other descriptive information regarding the sighting.

Incidental observations were recorded in accordance with and using the data sheet provided in the *Incidental Wildlife Observations SOP* (Sabina 2022a).

8.4.2 RESULTS AND DISCUSSION

In 2023, four incidental observations of ringed seals were recorded by site personnel near the WIR on Bathurst Inlet in April, 2023 (Appendix E). Single ringed seals were observed on April 13, 19, 22, and 24. All sightings were on the ice in Bathurst Inlet.

9. WILDLIFE INCIDENTS AND MORTALITIES

Wildlife incidents and mortalities are recorded by B2Gold Nunavut and are reported in accordance with NIRB Conditions #46 and #59. An incident is an interaction where there is active deterrent and direct harm, injury, damage, or wildlife mortality occurs. Various processes are in place and are undertaken by B2Gold Nunavut to mitigate for interactions, incidents, and mortalities.

During the 2023 reporting period, there were a total of seven wildlife incidents that involved the use of deterrents (Table 9-1). The only method of deterrence used in 2023 was bear bangers, and they were deployed to deter wolverines, wolves, and bears. No additional deterrents were required, as the animals moved away in response to the bear bangers.

TABLE 9-1 WILDLIFE INCIDENTS INVOLVING DETERRENCE 2023

Date of Incident	Location	Species	Scientific Name	Number of Individuals	Deterrence Method
January 26	Goose Camp	Wolverine	*Gulo gulo*	1	Two bear bangers deployed
January 26	Goose Camp	Wolverine	*Gulo gulo*	1	Two bear bangers deployed
January 28	Goose Camp	Wolverine	*Gulo gulo*	1	Two bear bangers deployed
January 31	Goose Camp	Grey Wolf	*Canis lupus*	1	One bear banger deployed
February 2	Main Haul Road	Grey Wolf	*Canis lupus*	3	Two bear bangers deployed
May 30	MLA Camp	Grizzly Bear	*Ursus arctos horribilis*	1	One bear banger deployed
September 26	Echo Pit	Grizzly Bear	*Ursus arctos horribilis*	4 (sow with three cubs)	One bear banger deployed

During the 2023 reporting period, there were a total of 14 wildlife mortalities reported at the Back River Mine (Table 9-2). Mortalities occurred as a result of vehicle-related collisions (three), interaction with site infrastructure (two), entanglement in aquatic survey equipment (six), and euthanasia (two). Unknown causes of death were also recorded for two individuals.

TABLE 9-2 WILDLIFE MORTALITIES 2023

Date of Incident	Location	Species	Scientific Name	Number of Individuals	Cause of Death	Reporting
January 3	Goose Lake Incinerator	Wolverine	*Gulo gulo*	1	Euthanasia	Internally, GN, KIA
January 12	Goose Lake Incinerator	Wolverine	*Gulo gulo*	1	Euthanasia	Internally, GN, KIA
July 31	Umwelt Lake	Juvenile Long-tailed Duck	*Clangula hyemalis*	1	Entanglement in survey equipment	Internally, GN, Fisheries and Oceans Canada, KIA
July 31	Umwelt Lake	Unspecified Duck Species	-	1	Entanglement in survey equipment	Internally, ECCC

Date of Incident	Location	Species	Scientific Name	Number of Individuals	Cause of Death	Reporting
July 31	Umwelt Lake	Long-tailed duck	*Clangula hyemalis*	1	Entanglement in survey equipment	Internally
August 12	Goose Exploration Camp	Arctic Hare	*Lepus arcticus*	1	Vehicle	Internally
August 17	Llama Lake	Red-throated loon	*Gavia stellata*	1	Entanglement in survey equipment	Internally
September 3	Umwelt Lake	Long-tailed duck	*Clangula hyemalis*	1	Entanglement in survey equipment	Internally, ECCC
September 4	Umwelt Lake	Red-throated loon	*Gavia stellata*	1	Entanglement in survey equipment	Internally, ECCC
September 17	MLA	Short-eared owl	*Asio flammeus*	1	Interaction with site infrastructure	Internally, GN
September 17	Helipad Road	Rock Ptarmigan	*Lagopus muta*	1	Vehicle	Internally
September 18	MLA	Arctic hare	*Lepus arcticus*	1	Vehicle	Internally
September 26	Core Sample Storage Area	Unspecified Ptarmigan Species	-	2	Unknown	Internally
October 12	Sewage Treatment Plant	American Marten	*Martes americana*	1	Interaction with site infrastructure	Internally, ECCC

The three vehicle-related wildlife mortalities involved two arctic hare (*Lepus arcticus*) and one rock ptarmigan. The first hare was struck on August 12 near the airstrip and the second was found deceased just outside of Goose exploration camp on September 18, appearing to have been hit by a vehicle. The rock ptarmigan was also found deceased, presumably hit by a vehicle, along the main road on September 17, 2023.

The two mortalities resulting from wildlife interactions with site infrastructure involved an American marten (*Martes americana*) and a short-eared owl (*Asio flammeus*). The American marten was found inside the Sewage Treatment Plant building. An air horn and long handled tool were used in attempt to trigger a response from the animal; however, it did not startle and was subsequently confirmed deceased by onsite personnel. The final cause of death could not be determined. The short-eared owl was found on the ground by a line walker during an inspection of the transfer conduit at the MLA. The cause of death is presumed to be due to contact with the

transfer conduit, with both low light and very heavy fog being suspected contributing factors in the incident. See Appendix G for mortality reports.

Six mortalities of waterfowl were a result of entanglement with fisheries equipment (gill nets for the fish out program), including three long-tailed ducks, two red-throated loons (*Gavia stellata*), and one unknown duck species.

Two wolverines were euthanized due to continually entering camp and posing a danger to personnel. On both occasions (January 3 and January 12), the wolverine was attracted to the incinerator building. There was a four-hour period of down time on January 12 at the incinerator, causing a backlog of waste, potentially attracting the wolverine to the site. The site was in code 1 status as of January 10, as the wolverine was spotted within the camp footprint near a tent. The response team investigated but was not able to locate and deter the animal. Permission to euthanize the wolverines was granted by the GN and all code 1 protocols and wildlife rules of engagement were followed during euthanasia. The Kivalliq Inuit Association was also informed following the event. Corrective actions implemented to prevent further attraction of wildlife included incineration of waste as soon as possible after collection and locking the doors to the incinerator when personnel are away from the building. This adaptive management of the incinerator improved the situation and there were no other reports of incidents at this site in 2023. See Appendix G for mortality reports.

Finally, two individuals of an unknown ptarmigan species were found deceased in the Core Sample Storage Area, with an unknown cause of death.

All mortality events were recorded and reported internally to Environment Department staff and followed methods and guidelines provided in B2Gold Nunavut's onsite *Incidental Wildlife Observations SOP* (Sabina 2022a), which includes instructions for recording incidents and mortalities. The incident reports for wildlife mortalities in 2023 are included in Appendix G.

Additional incident reports were submitted externally to ECCC on four occasions, for mortalities of the American marten, one long-tailed juvenile duck, one red-throated loon, and the unknown duck species. The GN was notified for the mortality of the two wolverines, the short-eared owl, as well as one juvenile long-tailed duck. Fisheries and Oceans Canada and the KIA were also notified for the mortality of the juvenile long-tailed duck.

In accordance with NIRB Condition #46, incident reports contain sufficient detail to demonstrate how monitoring and mitigation measures failed to prevent the mortality, as well as information pertaining to what measures were put in place to prevent the incident from reoccurring. Incident reporting was conducted for all mortalities and adaptive management measures were recorded when they were implemented. Improvements have been made to the incident reporting procedures for 2024, which will require the reporting personnel to explain both what adaptive management measures were conducted, or why no additional measures were required, to ensure these details are available for future reports.

In accordance with NIRB Condition #59, all incidents of bird mortalities associated with project activities will be recorded and reported to ECCC. In 2023, bird mortalities were reported to ECCC on three occasions. In 2024 all bird mortalities will be reported to ECCC.

10. SPECIES OF CONSERVATION CONCERN

NIRB Condition #55 requires B2Gold Nunavut to ensure mitigation and monitoring is updated regularly to maintain consistency with changes to species at risk listings. Species of conservation concern known to occur or potentially occurring in the Back River Mine area are presented in Table 10-1. The table of species at risk is updated annually to reflect the most up-to-date information for species, statuses, and known/potential occurrence at the mine.

Species of conservation concern include those listed in Nunavut by the Canadian Endangered Species Conservation Council (CESCC; 2020), or those listed as Endangered, Threatened, or Special Concern on Schedule 1 of the SARA (2002; Government of Canada 2019). Changes to the territorial or federal species statuses since the 2022 WMMP report are highlighted in Table 10-1 and include the following status changes:

- Territorial Status Updates (NatureServe 2024):
  - Caribou (Beverly/ Ahiak herd and Bathurst herd): Not Listed to Vulnerable.
  - Caribou (Dolphin and Union herd): Apparently Secure to Vulnerable.
  - Red knot (*Calidris canutus rufa [*ssp. DU3/4/5*]*): Imperiled to Vulnerable.
  - Red knot (*Calidris canutus islandica*): Imperiled to Apparently Secure.
  - Snow bunting : Vulnerable to Apparently Secure.
  - Hudsonian godwit (*Limosa haemastica)* was changed from Vulnerable to Unrankable.
  - Killer whale (Northwest Atlantic/Eastern Arctic population; *Orcinus orca):* Vulnerable to Imperiled.
  - Narwhal (*Monodon monoceros*): Apparently Secure to Vulnerable.
- Federal Status Updates (Government of Canada 2024):
  - Harris's sparrow (*Zonotrichia querula*): Not Listed to Special Concern.
  - Peregrine falcon (*Falco peregrinus anatum/tundrius*): Special Concern to Not Listed.
  - Peary caribou (*Rangifer tarandus pearyi*): Imperiled to Threatened.
  - Horned grebe (*Podiceps auritus*): Special Concern to Not Listed.

Multiple updated recovery strategies, action plans, or management plans for the listed species have been made available since 2013. Updates for species observed at the Back River Mine include management plans made available for peregrine falcon in 2017 (ECCC 2017a) and short-eared owl in 2018 (ECCC 2018a). Updates for species that may occur at the Back River Mine or be encountered along the shipping route include management plans made available for barren-ground caribou Dolphin and Union population in 2018 (ECCC 2018b), Peary caribou in 2022 (ECCC 2022a), and red-necked phalarope (*Phalaropus lobatus*) in 2022 (ECCC 2023), buff-breasted sandpiper (*Tryngites subruficollis*) in 2022 (ECCC 2022b), and horned grebe in 2022 (ECCC 2022c). Additionally, a recovery strategy and management plan for the red knot was made available in 2017 (ECCC 2017b). Recovery strategies were made available for Ross's gull (*Rhodostethia rosea*) in 2007 (ECCC 2007) and ivory gull *(Pagophila eburnea*) in 2014 (ECCC 2014). The WMMP Plan (Version 12, 2023) includes mitigation, management, and monitoring activities for each of the species at risk groups listed in Table 10-1. No additional mitigation, management, or monitoring is required due to the change in status listed above.

TABLE 10-1 SPECIES OF CONSERVATION CONCERN KNOWN OR POTENTIALLY OCCURRING AT THE BACK RIVER MINE, 2023

VEC or VEC Group	Species	Scientific Name	Federal Designation		Territorial Status[1]
			COSEWIC Status	*Species at Risk Act* Schedule[1]	
Species Confirmed to Occur in the Back River Mine Terrestrial or Marine Regional Study Areas					
Caribou (Beverly/ Ahiak herd and Bathurst herd)	n/a	*Rangifer tarandus groenlandicus*	Threatened	Not Listed	Vulnerable
Grizzly Bear	n/a	*Ursus arctos horribilis*	Special Concern	Special Concern	Vulnerable
Wolverine	n/a	*Gulo gulo*	Special Concern	Special Concern	Vulnerable
Upland Birds	American Golden-plover	*Pluvialis dominica*	Not Listed	Not Listed	Vulnerable
	Harris's Sparrow	*Zonotrichia querula*	Special Concern	Special Concern	Apparently Secure
	Hoary Redpoll[2]	*Carduelis hornemanni*	Not Listed	Not Listed	Vulnerable
	Least Sandpiper	*Calidris minutilla*	Not Listed	Not Listed	Secure
	Red-necked Phalarope	*Phalaropus lobatus*	Special Concern	Special Concern	Vulnerable
	Semipalmated Sandpiper	*Calidris pusilla*	Not Listed	Not Listed	Vulnerable
Raptors	Golden Eagle	*Aquila chrysaetos*	Not at Risk	Not Listed	Vulnerable
	Peregrine Falcon[2]	*Falco peregrinus anatum/tundrius*	Not at Risk	Not Listed	Apparently Secure
	Short-eared Owl	*Asio flammeus*	Threatened	Special Concern	Vulnerable
Seabirds and Seaducks	Common Eider[2]	*Somateria mollissima*	Not Listed	Not Listed	Vulnerable

VEC or VEC Group	Species	Scientific Name	Federal Designation		Territorial Status[1]
			COSEWIC Status	*Species at Risk Act* Schedule[1]	
Species that Could Occur in the Back River Mine Terrestrial or Marine Regional Study Areas					
Upland Birds	Black-bellied Plover[3]	*Pluvialis squatarola*	Not Listed	Not Listed	Vulnerable
	Buff-breasted Sandpiper	*Tryngites subruficollis*	Special Concern	Special Concern	Vulnerable
	Ruddy Turnstone	*Arenaria interpres*	Not Listed	Not Listed	Vulnerable
	Red Knot	*Calidris canutus rufa* (ssp. DU3/4/5)	Endangered/Special Concern/Endangered	Endangered /Not Listed/Not Listed	Vulnerable
	Red Knot	*Calidris canutus islandica*	Not at Risk	Special Concern	Apparently Secure
	Sanderling	*Calidris alba*	Not Listed	Not Listed	Vulnerable
	Snow Bunting	*Plectrophenax nivalis*	Not Listed	Not Listed	Apparently Secure
Species Confirmed to Occur along the Shipping Route					
Marine Mammals	Bowhead Whale (Eastern Canada - West Greenland population)	*Balaena mysticetus*	Special Concern	Not Listed	Vulnerable
	Beluga (Eastern High Arctic - Baffin Bay population)	*Delphinapterus leucas*	Special Concern	Not Listed	Vulnerable
	Killer Whale (Northwest Atlantic/Eastern Arctic population)	*Orcinus orca*	Special Concern	Not Listed	Imperiled
	Narwhal	*Monodon monoceros*	Special Concern	Not Listed	Vulnerable
	Ringed Seal	*Pusa hispida*	Special Concern	Not Listed	Apparently Secure
	Polar Bear	*Ursus maritimus*	Special Concern	Special Concern	Vulnerable

VEC or VEC Group	Species	Scientific Name	Federal Designation		Territorial Status[1]
			COSEWIC Status	*Species at Risk Act* Schedule[1]	
Species that Could Be Encountered along the Shipping Route					
Caribou (Dolphin and Union herd)	n/a	*Rangifer taranduas groenlandicus*	Endangered	Special Concern	Vulnerable
Caribou (Peary caribou)	n/a	*Rangifer tarandus pearyi*	Threatened	Threatened	Imperiled
Waterbirds	Horned Grebe	*Podiceps auritus*	Special Concern	Not Listed	Unrankable
Upland Birds	Hudsonian Godwit	*Limosa haemastica*	Threatened	Not Listed	Unrankable
	Lesser Yellowlegs	*Tringa flavipes*	Threatened	Not Listed	Vulnerable
Seabirds and Seaducks	King Eider	*Somateria spectabilis*	Not Listed	Not Listed	Vulnerable
	Ivory Gull	*Pagophila eburnea*	Endangered	Endangered	Critically Imperiled
	Ross's Gull	*Rhodostethia rosea*	Endangered	Threatened	Critically Imperiled
Marine Mammals	Walrus (High Arctic population)	*Odobenus rosmarus rosmarus*	Special Concern	Not Listed	Vulnerable

Note: Shaded cells refer to species' statuses that have changed or been added since the 2022 WMMP Report.
[1] Territorial status is current to 2023 and updated based on species search using NatureServe (NatureServe 2024).
[2] Species have also been encountered along the shipping routes.
[3] Species are also likely to be encountered along the shipping routes.

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APPENDIX A TABLE OF CONCORDANCE

APPENDIX A TABLE OF CONCORDANCE

TABLE 1 TERMS AND CONDITIONS, COMPLIANCE, AND DOCUMENT SECTION – WILDLIFE AND WILDLIFE HABITAT

Term	Condition	Compliance	Section
37	The Proponent shall have in place a Wildlife Mitigation and Monitoring Program Plan (WMMPP) throughout all phases of the Project. The plan shall include detailed monitoring, mitigation, and adaptive management measures for wildlife, and shall detail considerations for: species-specific sensitive wildlife periods and areas; activities known to affect wildlife; specific triggers for mitigation and adaptive management intervention; and implementation of all commitments made throughout the Nunavut Impact Review Board's (NIRB) assessment of the Project. The Proponent shall demonstrate appropriate refinements to the WMMPP's design throughout the life of the Project, as necessary to allow for the identification of long-term trends and cumulative effects where project interactions with wildlife are identified. Updates to the WMMPP may be triggered by significant changes in project development plans, monitoring results indicating biologically-meaningful changes, significant updates to the scientific understanding of management methods relevant to wildlife at the project site, Inuit Qaujimajatuqangit, Traditional Knowledge, changes in climatic conditions that might subject wildlife to unexpected impacts, or as otherwise necessary.	In Compliance During 2023, the WMMP Plan was updated to Version 12 to include commitments made by B2Gold in response to comments and suggestions made by the Kitikmeot Inuit Association (KIA).	Sections 1.1.2, 1.2
38	In consultation with the Government of Nunavut, the Kitikmeot Inuit Association, and other relevant parties, the Proponent shall make efforts to contribute to existing and planned cumulative effects and regional monitoring programs for caribou, grizzly bear, wolverine and muskox, as appropriate. Relevant details of coordination through data sharing arrangements or agreements should be highlighted.	In Compliance Section 7.2.2.7 of the WMMPP discusses collaborative herd-scale monitoring for caribou, which includes 1) participation in meetings for the Draft Bathurst Caribou Range Plan, and 2) collaborative monitoring for caribou with the GNDOE and Government of Northwest Territories Department of Environment and Natural Resources (NWT ENR). In 2023, B2Gold hosted biologists from the GNWT Department of Environment and Climate Change (GNWT ECC, formerly NWT ENR) and the Government of Nunavut Department of Environment (GN DoE) at the Goose Lake camp, providing accommodation, logistics support and fuel to conduct wildlife surveys for caribou and grizzly bear. A regional camera monitoring program for caribou, bears, wolverine and muskox was initiated in 2023 by B2Gold.	Sections 3.8, 4.4, 5.5
39	The Proponent shall provide, within its Wildlife Mitigation and Monitoring Program Plan (WMMPP), measures for the staged reduction of project activities should caribou occur in proximity to the project site. The WMMPP will include a detailed description of all project activities, equipment, and components that would be managed during different phases of staged reduction mitigation events, including rapid and planned operational shutdowns should caribou calving or post-calving ranges overlap with the Project. Any planned activity restrictions/cessations should be of sufficient duration to take into account annual variation in the timing and distribution of calving and post-calving caribou interactions with the Project.	In Compliance The mitigation measures listed in the WMMPP (Version 12, April 2023) were followed in 2023. In 2023 there were no situations requiring implementation of the caribou management system above a Level 2 response.	Section 3.2
40	In consultation with the Kitikmeot Inuit Association, the Government of Nunavut, and relevant parties, the Proponent shall ensure that the utilization of satellite collar data as an early detection method for caribou takes into consideration an agreed-upon biological buffer, as well as potential lag times associated with delayed access to collar data, for the development of thresholds for monitoring and adaptive management triggers.	In Compliance B2Gold Nunavut used the collar data plus the biological buffer listed in the WMMPP (Version 12, April 2023) to monitor the need for caribou mitigation. Reduction of project activities did not occur for caribou in 2023, though a Level 2 Alert was issued.	Section 3.2
41	The Proponent shall demonstrate consideration for the increased potential of caribou presence in the area when planning outdoor construction activities (including site clearing, blasting, and operation of heavy equipment) during the July 26 to August 31 period.	In Compliance The mitigation measures listed in the WMMPP (Version 12, April 2023) were followed in 2023. In 2023, implementation of Level 2 of the Caribou Management System was required. To mitigate for effects on caribou, the Environment Department monitored GNWT collar data daily during the calving, post-calving, and summer seasons (July – August).	Section 2.5 Section 3.2 Section 3.4
42	The Proponent shall ensure that all caribou mitigation and monitoring measures (including mitigation for shifts in calving and post-calving ranges) included within the Wildlife Mitigation Monitoring Program Plan apply to all caribou, regardless of the herd.	In Compliance Mitigation, management, and monitoring applies to all caribou, regardless of herd.	Section 3
43	In consultation with the Government of Nunavut (GN) and other relevant authorities, the Proponent shall include criteria and procedures within its Wildlife Mitigation and Monitoring Program Plan governing the deterring of wildlife from blast zones and the relaxation of mitigation measures for animals deemed project-tolerant. Caribou shall be deterred using only agreed-upon deterrence measures established in consultation with the GN and only if their safety is deemed at risk.	In Compliance Pre-blast surveys recorded one caribou lingering just outside of the 500 m blast radius - the caribou was monitored to ensure it did not enter the blast radius. No additional mitigative measures were required. No other mammals were observed during pre-blast surveys in 2023. No project-tolerant wildlife were observed in 2023.	Section 2.5

Term	Condition	Compliance	Section
44	In collaboration with the Government of Nunavut, the Proponent shall specify within its Wildlife Mitigation and Monitoring Plan specific mitigation measures, trigger distances, and group size thresholds for the protection of muskox in proximity to project activities (e.g., blasting, heavy truck traffic, and aircraft).	In Compliance The WMMP Plan (Version 12, April 2023) Section 8.1 specifies mitigation measures, trigger distances, and group size thresholds for muskox in proximity to site activities. These triggers were not reached in 2023, and as such additional mitigation was not required.	Section 2.4 Section 2.5 Section 4
45	The Proponent shall ensure that safety barriers, berms, and designed crossings associated with project infrastructure, including site roads and the winter ice road, are constructed as necessary to allow for the safe passage of caribou and other terrestrial wildlife and do not interfere with wildlife denning sites.	In Compliance In 2023, the WIR was constructed in such a way as to allow caribou and other animals to cross the road. The WIR route was planned using information from the surveys conducted in 2019 and 2020 to reduce potential for interaction with potential denning habitat through avoidance. Snowbank heights on the WIR were kept below 1 metre in height and were feathered wherever possible to reduce roadside slope and encourage natural caribou movement. Dedicated WIR monitors (a wildlife biologist and Inuit land user) travelled the road daily (weather permitting) from March 29 – April 24 to record wildlife presence and ensure compliance with mitigations (including bank heights).	Sections 2.3 and 3.3
46	The Proponent shall file an incident report to the local wildlife conservation office for any and all direct wildlife mortalities that occur in association with the Project. All incident reports should include sufficient detail to demonstrate how monitoring and mitigation measures failed to prevent the mortality, as well as information pertaining to what measures would be put in place to prevent the incident from reoccurring. The Proponent shall reach an agreement with the appropriate Designated Inuit Organization regarding compensation for any direct mortality of wildlife resulting from the Project.	In Compliance Wildlife incident/mortality reports are reported in the annual WMMP Report.	Section 9
47	The Proponent shall, in consultation with the Kitikmeot Inuit Association, develop and implement measures to prevent the use of water attenuation ponds and tailings storage areas by wildlife, including waterfowl, other migratory birds, and caribou, with sufficient monitoring to assess whether these measures are effective or whether further deterrents may be required.	In Compliance Not Applicable. No water attenuation ponds or tailing storage facilities occur at the project site at this time.	Section 6.3
48	The Proponent shall develop and implement mitigation measures and monitoring programs to limit the attraction of predators and scavengers to Project facilities, and to limit impacts from specific project activities.	In Compliance Inspections of WMA's were completed by B2Gold staff in 2023. In addition, on-site wildlife camera monitoring occurred throughout 2023 at site facilities that could result in attraction to site.	Section 2.6 Section 2.7 Section 3.7
49	The Proponent shall report to the Nunavut Impact Review Board (NIRB) regarding its terrestrial wildlife monitoring efforts, with inclusion of the following information: • Description of all updates to terrestrial wildlife baseline data; • A description of the involvement of local communities in its monitoring programs; • A detailed presentation and analysis of the distribution relative to Project infrastructure and activities for caribou and other terrestrial mammals observed during surveys and incidental sightings; and • Results of the annual monitoring programs, including methodologies and statistical approaches used to support conclusions drawn.	In Compliance Not applicable. 2023 is the first year of Construction Phase monitoring. Increased wildlife monitoring began in 2023 as Back River transitioned into the Construction Phase. Wildlife monitoring in 2024 will continue to follow the WMMPP (Version 12, April 2023).	

Term	Condition	Compliance	Section
50	Within its annual report to the NIRB, the Proponent shall incorporate a review section which includes: • An examination for trends in the measured natural variability of Valued Ecosystem Components in the region relative to the baseline reporting; • A detailed analysis of wildlife responses to operations with emphasis on wildlife behaviour, mortalities, and displacements (if any), and responses to project operations; • A detailed description of staged reduction mitigation events, including operational shutdowns, undertaken throughout the year in response to wildlife in proximity to the Project. Details shall include, but are not limited to: o A description of the aggregation and species of wildlife encountered; o Environmental conditions; o A description of the sequence of activities ceased as well as the duration of cessation; and o The effectiveness of the applied mitigation measures and potential amendments that may be required; • A demonstration and description of how the monitoring results contribute to cumulative effects monitoring associated with the Project; and • Any proposed changes to the monitoring survey methodologies, statistical approaches, or proposed adaptive management stemming from the results of the monitoring program.	In Compliance Detections of VECs at the mine were recorded and presented throughout the 2023 WMMP Report, as collected via numerous monitoring programs. Implementation of the Caribou Management system is reported in the WMMP Report. Wildlife monitoring in 2024 will continue to follow the WMMPP (Version 12, April 2023). Results collected in future years will be compared against those from 2023 to determine any potential trends, and to inform adaptive management. The WMMPP will continue to be updated as needed, including with findings from long-term monitoring.	Sections 3 through 7
51	In collaboration with the Kitikmeot Inuit Association, the Government of Nunavut, and other relevant parties, the Proponent shall develop and participate in a Caribou Technical Advisory Group. As part of its function, the group shall seek to: • Provide independent advice on study design(s) and analyses for the testing and evaluation of the Project's adaptive management measures for reducing disturbance to caribou; • Undertake appropriate testing of the caribou detection methods, group size thresholds, and distance thresholds employed as recommended by the advisory group; • On the basis of these tests, and any other available evidence, provide analyses and a written evaluation of the caribou protection measures and where appropriate make necessary adjustments to those measures; and • Submit reports to the Nunavut Impact Review Board (NIRB), and other relevant parties, for review.	In Compliance The CTAG is composed of representatives from B2Gold, the KIA, the GN DOE and other experts requested by the representatives to address particular issues. In addition to the WMMP Plan, B2Gold has also discussed various aspects of mitigation, management, and monitoring with the CTAG.	Section 1.2
53	The Proponent shall have in place specific measures for the protection and monitoring of birds and bird habitat within its Wildlife Mitigation and Monitoring Program Plan (WMMPP). Protection measures shall include, but are not limited to: • Mitigation and monitoring measures applied at all times throughout project operations to limit impacts to birds and bird habitat from specific project activities and infrastructure; • Mitigation and monitoring measures applied during periods of heightened sensitivity or alternative circumstances; • Adaptive management measures with specific triggers for intervention; and • Protocols for collaboration with relevant parties, and the Project's advisory groups, throughout the Project, including on-going consideration and incorporation of Inuit Qaujimaningit, to ensure the effective delivery of the WMMPP as related to bird and bird habitat protection.	In Compliance Pre-clearing surveys are conducted prior to construction occurring during the bird breeding season (sensitive season) to ensure all nests in the area are located (e.g., in case of new nest construction) and occupancy status is confirmed. Adaptive management measures enacted as a result of the avian mortalities observed this year include careful reassessment and planning of any future gill netting efforts, reinforcement of traffic rules on site (as outlined in the WMMPP), and reiteration to all staff of the importance of reporting any wildlife mortalities or incidents	Sections 6.2, 6.7, 7.2, 7.5, 9.
54	If Species at Risk or their nests and eggs are encountered during project activities or monitoring programs, the primary mitigation measure must be avoidance. The Proponent shall establish clear zones of avoidance for nest of birds, particularly for Species At Risk, based on species-specific nest setback distances outlined in the Wildlife Mitigation and Monitoring Program Plan.	In Compliance No avian Species at Risk nests or eggs were detected in 2023.	Sections 6.2, 7.2.
55	The Proponent shall ensure that the mitigation and monitoring strategies developed for Species at Risk are updated as necessary to maintain consistency with any applicable status reports, recovery strategies, action plans, and management plans that may become available through the duration of the Project.	In Compliance The table of species at risk is updated annually to reflect the most up-to-date information for species, statuses, and known/potential occurrence at the mine.	Section 10

Term	Condition	Compliance	Section
56	The Proponent shall, to the extent possible, schedule required ground disturbance activities (e.g., clearing) to occur prior to the seasonal return of migratory birds to the project area and shall install nesting deterrents (e.g., flagging) to discourage birds from nesting in areas likely to be disturbed by construction/clearing activities. If clearing is to occur during the nesting season, a nest survey should take place to identify nests and establish appropriate setbacks to ensure nests remain undisturbed until the young have fledged or left the nest. Pre-clearing nest surveys should be conducted less than 14 days prior to land clearing activities as a consideration for the short nesting cycles of some arctic-nesting birds.	In Compliance Pre-clearing surveys were conducted in 2023. No avian Species at Risk nests or eggs were detected.	Sections 6.2 and 7.2
57	Prior to removal or deterrence of raptors, the Proponent will contact the Government of Nunavut – Department of Environment to discuss proposed mitigation options and, if required, will obtain the required permits prior to undertaking any activity that can lead to the destruction of raptor nests or the deterring of raptors from nesting sites.	In Compliance No raptors or raptor nests were deterred or removed in 2023.	N/A
58	The Proponent shall include measures within the Wildlife Mitigation and Monitoring Program Plan to ensure that, subject only to vessel safety requirements, a setback distance of at least 500 metres is maintained from colonies and moulting aggregations of seaducks and waterfowl during Project shipping transiting through Bathurst/Elu Inlet, Lambert Channel, and Eastern Lancaster Sound.	In Compliance Prior to the 2023 shipping season, B2Gold provided an SOP to the shipping contractors, which describes the management and monitoring requirements for the site. None of the seabird sightings noted during surveys indicated requirements for management activity.	Section 8.2
59	Any incidents of bird mortalities associated with project activities are to be recorded and reported to Environment and Climate Change Canada (Canadian Wildlife Service). The Proponent shall work with the Canadian Wildlife Service to determine appropriate recording and reporting format and timing.	In Compliance Full details of bird mortalities are presented in the 2023 Wildlife Mitigation and Monitoring Report (Section 9 and Appendix G).	Section 9 Appendix G
60	Subject to safety requirements, the Proponent shall ensure that project aircraft maintain sufficient cruising altitudes to avoid disturbance to migratory birds. In particular, the Proponent shall maintain appropriate altitudes in proximity to observed concentrations of migratory birds, caribou and muskoxen that may be encountered during aircraft flights to the George property and other exploration areas, as well as during the transfer of employees between project facilities.	In Compliance During 2023, B2Gold was using the WMMPP (Version 12, April 2023) to conduct mitigation and monitoring relevant for the Construction Phase. Mitigation and monitoring were effective. No caribou or other wildlife were observed during checks of the airstrips and surrounding area prior to aircraft take-off and landings. During 2023, both fixed-wing and helicopter pilots followed guidelines set out in the WMMPP. No interactions between wildlife and fixed wing aircraft occurred.	Section 2.4
61	The Proponent shall ensure that pilots are informed of minimum cruising altitude guidelines and that a daily log or record of flight paths and cruising altitudes for project aircraft is maintained to monitor adherence and to follow up on complaints.	In Compliance Fixed wing flights were recorded on pilot logs. The tracks of helicopters were recorded using a Global Positioning System (GPS). No fixed-wing pilots reported any emergencies or weather conditions which required low-level flight (below 610 m). Helicopter pilots avoided flying close to the ground when wildlife were present. Mitigation and monitoring were effective. No wildlife incidents with aircraft were recorded.	Section 2.4

TABLE 2 TERMS AND CONDITIONS, COMPLIANCE, AND DOCUMENT SECTION – MARINE WILDLIFE

Term	Condition	Compliance	Section
63	The Proponent shall undertake a survey for seals and seal lairs annually prior to construction of the winter airstrip and ice road on Bathurst Inlet, and shall take every precaution to align these components to ensure that seal dens/lairs are not impacted by Project infrastructure or activities.	In Compliance In 2023, B2Gold did not construct the on-ice airstrip at the MLA, and the WIR was constructed prior to February 15; therefore, no pre-construction surveys were required.	Section 8.3
64	The Proponent shall ensure that shipping companies contracted for the Project have in place appropriate ship-based marine mammal monitoring programs and protocols developed through consultation with Fisheries and Oceans Canada, communities, and other interested parties. Consideration should be provided for utilizing, trained observers for full-time marine wildlife monitoring with established data collection and recording protocols.	In Compliance Prior to the 2023 shipping season, B2Gold provided a Marine Shipping SOP and Shipping Management Guidelines brochure to the shipping contractors, which describes the management and monitoring requirements for the site. During 2023, incidental marine mammal and seabird sightings were recorded by crew members and are presented in the annual WMMP Report. There were no incidents or sightings requiring management actions in 2023.	Section 8.2
65	The Proponent shall ensure contracted shipping companies are made aware of and required to avoid sensitive wildlife habitat and species along the shipping route and use appropriate protocols and equipment to reduce the potential for an accidental release of fuel or other deleterious substances into the marine environment. These protocols should also be communicated to local communities.	In Compliance Prior to the 2023 shipping season, B2Gold provided a Marine Shipping SOP and Shipping Management Guidelines brochure to the shipping contractors, which describes the management and monitoring requirements for the site. There were no incidents or sightings requiring management actions in 2023.	Section 8.2

APPENDIX B OVERVIEW OF WILDLIFE MITIGATION AND MONITORING PROGRAMS DURING PHASES OF THE BACK RIVER MINE

Appendix B-1: Overview of Caribou and Muskox Monitoring Programs - Construction

Appendix B-2: Overview of Grizzly Bear and Wolverine Monitoring Programs - Construction

Appendix B-3: Overview of Bird Monitoring Programs - Construction

Appendix B-4: Overview of Marine Mammal Monitoring Programs - Construction

Appendix B-5: Overview of General Wildlife Management - Construction

APPENDIX B OVERVIEW OF WILDLIFE MITIGATION AND MONITORING PROGRAMS DURING PHASES OF THE BACK RIVER PROJECT

TABLE B-1 OVERVIEW OF CARIBOU AND MUSKOX MONITORING PROGRAMS – CONSTRUCTION

Monitoring Programs	Frequency during Construction	WMMP Plan Section	New in 2023?	Conducted in 2023?	Methods	WMMP Report Section
Caribou						
1) Monitor Seasonal Caribou Ranges *Use collar data to track during which seasons caribou are likely to interact with the Project*	Yearly	7.2.1.1	Yes	Yes	Collar data Bathurst and Beverly/Ahiak - calculate kernel utilization distributions (UD) for each season	3.4
2) Near Real-time Collar Monitoring *Use collar data to track near real-time location of caribou herds*	Ongoing	7.2.1.2	No	Yes	Collar data - the trigger distance 14 km or greater to ensure that caribou are outside any possible ZOI when ground-based monitoring is triggered. This distance will alert wildlife monitors and trigger active caribou monitoring and a site alert.	3.2
3) Active Caribou Monitoring *Wildlife monitors will survey for caribou from raised platforms or using cameras* *Also survey for muskox*	Ongoing, if triggered (calving through summer, or caribou within 4 km)	7.2.1.3	Yes	Yes	Develop a Wildlife Monitoring Training Program for wildlife monitors. 3 locations: 1) The Umwelt Lake; 2) The Airstrip observation point; 3) on the ridge to the west of the project. Use vehicle-based monitoring.	3.2 3.6

Monitoring Programs	Frequency during Construction	WMMP Plan Section	New in 2023?	Conducted in 2023?	Methods	WMMP Report Section
4) Incidental Wildlife Reporting *Incidental observations of wildlife and incidents* *Includes muskox 8.2.1.2*	Ongoing	7.2.1.4	No	Yes	Report observations of wildlife species	3.9 (muskox 4.5)
5) On-site Camera Monitoring *Use motion-trigger cameras to track caribou interactions with Project infrastructure* *Includes Muskox 8.2.1.1*	Ongoing	7.2.1.5	Yes	Yes	Remote cameras at various locations. Across years, data analysis will evaluate 1) the timing of caribou presence, 2) activity around Project facilities, and 3) the use of road crossing structures.	3.7 (muskox 4.3)
6) Over the Horizon Monitoring *If ZOI monitoring indicates that management must be conducted for caribou when they are over the horizon (greater than can be observed from site)*	If triggered	7.2.1.6	Yes (only if triggered)	Yes	Should on-site behaviour monitoring or regional monitoring using satellite collars indicate that there is a need to monitor for caribou at distances greater than can be observed from the Umwelt Lake and Airstrip observation points, then the over-the-horizon monitoring program will be triggered.	NA
7) Human Activity Monitoring *Reporting hunting and fishing on the Project site*	Ongoing	7.2.1.7	No	Yes	Incidental observations of people using the winter ice road will be reported to environment staff	2.3.2.2
8) Traffic Monitoring on Winter Ice Road *Record the number of Project vehicles using the winter ice road*	Ongoing	7.2.1.8	Yes	Yes	Vehicle dispatch will record the number of vehicles using the winter ice road in a vehicle log book	2.3.2.1

Monitoring Programs	Frequency during Construction	WMMP Plan Section	New in 2023?	Conducted in 2023?	Methods	WMMP Report Section
9) Aircraft Monitoring *Record the number of aircraft trips to and from the Project site*	Ongoing	7.2.1.9	No	Yes	Record the number and type of aircraft, and flight paths from GPS trackers on aircraft.	2.4
10) Caribou Monitoring on WIR *Determine if any caribou are moving towards the road or attempting to cross the road*	Ongoing, if WIR after April 15	7.2.1.10	Yes	Yes	An on-site wildlife monitor will drive the winter ice road a minimum of twice per day, recording any caribou observations along the way	3.3
11) Caribou Monitoring to Determine Groups Size Thresholds *Refining the number of caribou in a group used to guide mitigation.*	One time (between years 1-3)	7.2.1.11	No	No (2024)	Aerial Survey	3.5
Caribou Monitoring to Measures Predicted Effects from FEIS						
1) Footprint Monitoring *Muskox 8.2.2.1*	Yearly	7.2.2.1	No	Yes	GIS analysis to overlay constructed footprint area with habitat suitability maps for caribou. Maps and a table of habitat loss will be produced	2.1
2) Behaviour Monitoring Program *Muskox 8.2.2.3*	10/Year	7.2.2.2	Yes	Yes	Scan sampling	3.6 (muskox 4.2)
3) Regional Collar Monitoring for ZOI and Movement Rate	Every 3 Years	7.2.2.4	Yes	No (2024 or 2025)	BACI design using collar data before and after construction of the Project with a dose-response calculation used by Boulanger et al. (2012) to define treatment and control.	NA

Monitoring Programs	Frequency during Construction	WMMP Plan Section	New in 2023?	Conducted in 2023?	Methods	WMMP Report Section
4) Noise Monitoring *Monitor noise levels outside the footprint*	One time	7.2.2.5	Yes	No (2024)	March and June at 10 sites	NA
5) Collaborative Herd-scale Monitoring *Cumulative effects monitoring* *Muskox too*	TBD	7.2.2.7	TBD	No	Coordinate with GN and GNWT to support. Report contribution to cumulative effects monitoring in WMMP	NA
6) Regional Camera Monitoring *Muskox 8.2.2.2*	Every 3 Years	7.2.2.8/8.2.2.2	Yes	Yes	60 cameras (20 in each ZOI, treatment, and control), following same baseline design.	3.8 (Muskox 4.4)

TABLE B-2 OVERVIEW OF GRIZZLY BEAR AND WOLVERINE MONITORING PROGRAMS – CONSTRUCTION

Monitoring Programs	Frequency during Construction	WMMP Plan Section	New in 2023?	Conduct in 2023?	Methods	WMMP Report Section
1) Avoid dens during construction	Ongoing	9.1.3.2	Yes	Yes	Avoid dens by required distance	2.3
2) WIR Management	If triggered	9.1.3.7, 9.2.1.5	No	No	Pre-construction surveys in WIR in denning habitat	2.3
3) Waste Management Monitoring *Monitoring waste storage areas for misdirected waste or signs of wildlife*	Weekly	9.1.7.2, 9.2.1.4	Yes	Yes	Record misdirected waste, monitor weekly, and annual audit	2.6 and 5.2
4) On-site Camera Monitoring *Use motion-trigger cameras to track grizzly bear interactions with Project infrastructure*	Ongoing	9.2.1.1	No	Yes	Same as caribou (Section 7.2.1.5)	5.4

Monitoring Programs	Frequency during Construction	WMMP Plan Section	New in 2023?	Conduct in 2023?	Methods	WMMP Report Section
5) Incidental Wildlife Reporting *Incidental observations of wildlife and incidents*	Ongoing	9.2.1.2	No	Yes	Same as caribou	5.6
6) Skirting and Building Monitoring	Monthly	9.2.1.3	Yes	Yes	Monitors will walk the perimeter of the skirting/fencing looking for damage, downed fencing, animals, or animal sign inside the fence	2.7 and 5.3
7) Footprint Monitoring	Yearly	9.2.2.1	No	Yes	GIS analysis to overlay constructed footprint area with habitat suitability maps for carnivores. Maps and a table of habitat loss will be produced	2.1
8) Regional Camera Monitoring	Every 3 Years	9.2.2.2	Yes	Yes	60 cameras (20 in each ZOI, treatment, and control), following same baseline design.	5.5
9) Contribution to GN/GNWT monitoring initiatives	TBD	9.2.2.3	TBD	No		

TABLE B-3 OVERVIEW OF BIRD MONITORING PROGRAMS – CONSTRUCTION

Monitoring Programs	Frequency during Construction	WMMP Plan Section	New in 2023?	Conduct in 2023?	Methods	WMMP Report Section
All Birds						
1) Pre-clearing Surveys for Nests *Pre-survey areas if construction occurs during nesting season*	Ongoing, if triggered in spring	10.2.1.2	Yes	Yes	Transects. • Raptors April 15 to August 15 • Waterbirds/Marine Birds May 15 to August 15 • Upland birds May 15 to August 15	6.2, 7.2
2) Incidental Wildlife Reporting *Incidental observations of wildlife and incidents*	Ongoing	10.2.1.4	No	Yes		6.7, 7.5
3) Footprint Size Monitoring	Ongoing	10.2.2.1	No	Yes		2.1
Raptors						
1) Pit and Quarry Wall Nest Monitoring *Monitor pits for nesting raptors*	Yearly, in Spring	10.2.1.1	Yes	No (No quarry walls in 2023)	Nest surveys will be conducted in pit and quarry areas scheduled for blasting during the raptor breeding period on a weekly or bi-weekly basis	7.3
2) Aerial monitoring to estimate productivity	Every 3 years	10.2.2.2	Yes	No (2024)	Raptor nests in the RSA will be monitored to determine distribution, occupancy, and productivity, following methods used during baseline surveys	7.4 (in 2024)

Monitoring Programs	Frequency during Construction	WMMP Plan Section	New in 2023?	Conduct in 2023?	Methods	WMMP Report Section
Waterbirds						
1) Waterbird Monitoring in Ponds *Monitor waterbird usage of Project ponds if water quality does not meet wildlife guidelines (if water is present in ponds during the Project Phase in question)*	Weekly (May through October)	11.2.1.1	Yes	No (ponds in 2023)	Monitoring will be conducted using 1) stationary wildlife cameras, or 2) by a qualified person trained in bird ecology and behaviour	6.3
2) Aerial and ground surveys to measure breeding for waterbirds	Every 3 years	11.2.2.2	Yes	No (2024)	1. Trial 2 methods and compare during the first year of migratory bird surveys. Aerial surveys to record waterbird breeding in the terrestrial RSA 2. ground-based surveys of ponds within 5 km of Project infrastructure	NA (2024)
3) Aerial surveys to examine staging areas for waterbirds	Every 3 years (2 times yearly)	11.2.2.2	Yes	No (2024)	1. Aerial grid surveys during spring and fall staging periods following established protocols 2. Ground-based counts of all wetlands within a 5 km radius of the Project infrastructure during the spring and fall staging periods	NA (2024)

Monitoring Programs	Frequency during Construction	WMMP Plan Section	New in 2023?	Conduct in 2023?	Methods	WMMP Report Section
Upland Birds						
1) PRISM/ VRPC surveys for upland breeding birds	Every 2 years	12.2.2.2	Yes	No (2024)	Combination of variable radius point-count surveys and PRISM plots. A suite of approximately 50 PRISM plots at varying distances from mine infrastructure within the RSA will be revisited and/or established	NA (2024)
2) Aerial and ground surveys to measure breeding for marine birds	Every 3 years	13.2.2.2	Yes	No (2024)	Methods and analyses follow those developed for waterbirds and are described in Section 11.2.2.2	NA (2024)
3) Aerial surveys to examine staging areas for marine birds	Every 3 years (2 times yearly)	13.2.2.2	Yes	No (2024)	Methods and analyses follow those developed for waterbirds and are described in Section 11.2.2.2	NA (2024)
4) Incidental Seabird Observations from Ships	Ongoing	13.2.2.3	No	Yes	Seabird monitoring will be conducted as incidental observations by the ship's bridge crew	8.2

TABLE B-4 OVERVIEW OF MARINE MAMMAL MONITORING PROGRAMS – CONSTRUCTION

Monitoring Programs	Frequency during Construction	WMMP Plan Section	New in 2023?	Conduct in 2023?	Methods	WMMP Report Section
Marine Mammals						
1) On-Ice Monitoring at the MLA - Seals *Pre-survey sea ice if on-ice works occur Feb 15-March 15*	If triggered	14.2.1	No	Yes		8.3
2) Incidental Marine Mammal and Polar Bear Observations from Ships	Ongoing	14.2.2	No	Yes	Monitoring as incidental observations by the ship's bridge crew	8.2

TABLE B-5 OVERVIEW OF GENERAL WILDLIFE MANAGEMENT – CONSTRUCTION

Management Program (all wildlife)	Frequency during Construction	WMMP Plan Section	New in 2023?	Methods	WMMP Report Section
1) Management System to Reduce Disturbance *Site Alert/Shut down system*	Ongoing	7.1.5.1	No		3.2
2) Fixed-wing and Helicopter Management *Maintaining altitude, pause flights*	Ongoing	7.1.5.6 and 7	No		2.4
3) Blasting Management *Monitor and pause blasting, site wide notification system*	Ongoing	7.1.5.8, 8.2.1.3, 9.2.1.6	No		2.5
4) Heavy Equipment management	Ongoing	7.1.5.9	No		2.2

APPENDIX C WINTER ICE ROAD CARIBOU OBSERVATIONS, 2023

APPENDIX C: WINTER ICE ROAD CARIBOU OBSERVATIONS, 2023

Date	Location	Group Size (estimated for groups >100)
30-Mar-23	KM 75	40
30-Mar-23	KM 71	12
31-Mar-23	KM 75	40
31-Mar-23	KM 68	25
1-Apr-23	KM 46	21
2-Apr-23	KM 71	100+
3-Apr-23	KM 93	50
3-Apr-23	KM 74	5
4-Apr-23	KM 127	1000+
4-Apr-23	KM 124	14
5-Apr-23	KM 115	2000+
5-Apr-23	KM 121	1200+
5-Apr-23	KM 75	150+
5-Apr-23	KM 128	21
5-Apr-23	KM 125	14
6-Apr-23	KM 135	10 000+
6-Apr-23	KM 94	200+
6-Apr-23	KM 115	18
6-Apr-23	KM 112	14
7-Apr-23	KM 153	10 000+
7-Apr-23	KM 141	250+
7-Apr-23	KM 105	73
7-Apr-23	KM 99	41
7-Apr-23	KM 76	30
7-Apr-23	KM 72	8
8-Apr-23	KM 76	31
8-Apr-23	KM 72	8
9-Apr-23	KM 46	51
10-Apr-23	KM 108	100+
10-Apr-23	KM 66	60
10-Apr-23	KM 81	15
11-Apr-23	KM 159	12 000+
11-Apr-23	KM 135	1000 +
11-Apr-23	KM 120	1000 +
11-Apr-23	KM 47	300+
11-Apr-23	KM 150	100+
11-Apr-23	KM 107	100+
11-Apr-23	KM 126	52
11-Apr-23	KM 69	50
11-Apr-23	KM 66	23
11-Apr-23	KM 97	17
12-Apr-23	KM 154	2000+
12-Apr-23	KM 158	1500+
12-Apr-23	KM 155	1000+
12-Apr-23	KM 161	500+
12-Apr-23	KM 120	300+

APPENDIX C: WINTER ICE ROAD CARIBOU OBSERVATIONS, 2023

Date	Location	Group Size (estimated for groups >100)
12-Apr-23	KM 82	9
13-Apr-23	5 KM+ southeast of	5000+
13-Apr-23	KM 157	800+
13-Apr-23	KM 90	150+
13-Apr-23	KM 97	70
13-Apr-23	KM 103	55
13-Apr-23	KM 155	21
13-Apr-23	KM 96	5
15-Apr-23	KM67	400
15-Apr-23	KM79	150
15-Apr-23	KM117	35
15-Apr-23	KM162	60
15-Apr-23	KM162	100
15-Apr-23	KM162	200
16-Apr-23	KM65	20
16-Apr-23	KM81	20
16-Apr-23	KM124	42
16-Apr-23	KM129	2,000
17-Apr-23	KM69	4
17-Apr-23	KM70	20
17-Apr-23	KM87	300
17-Apr-23	KM135	20
17-Apr-23	KM140	400
17-Apr-23	KM148	500
17-Apr-23	KM148	1,000
17-Apr-23	KM151	100
17-Apr-23	KM153	500
17-Apr-23	KM158	100
18-Apr-23	KM115	50
18-Apr-23	KM115	50
20-Apr-23	KM42	15
20-Apr-23	KM68	6
20-Apr-23	KM78	2,000
20-Apr-23	KM87	32
20-Apr-23	KM97	100
20-Apr-23	KM160	13
21-Apr-23	KM87	500
21-Apr-23	KM92	100
21-Apr-23	KM92	200
21-Apr-23	KM92	200
21-Apr-23	KM92	200
21-Apr-23	KM95	50
21-Apr-23	KM96	300
21-Apr-23	KM105	26
21-Apr-23	KM129	75
21-Apr-23	KM132	4

APPENDIX C: WINTER ICE ROAD CARIBOU OBSERVATIONS, 2023

Date	Location	Group Size (estimated for groups >100)
22-Apr-23	KM73	1,000
22-Apr-23	KM75	18
22-Apr-23	KM90	8
22-Apr-23	KM92	9
23-Apr-23	KM80	9
23-Apr-23	KM86	21
23-Apr-23	KM88	2
23-Apr-23	KM90	36
24-Apr-23	KM78	100
24-Apr-23	KM81	6
24-Apr-23	KM82	50
24-Apr-23	KM83	200
24-Apr-23	KM93	50
24-Apr-23	KM98	50
24-Apr-23	KM101	30
24-Apr-23	KM105	14
24-Apr-23	KM136	5
24-Apr-23	KM141	4
24-Apr-23	KM145	22

APPENDIX D FACILITIES CAMERA MONITORING DATA, 2023

APPENDIX D: FACILITIES CAMERA MONITORING DATA, 2023

Camera Location	DateTime	Species	Number of Adults	Number of Juveniles	Behaviour	Comments
BR01	2023-02-24 09:13:58	Raven	0	0		
BR01	2023-02-24 10:18:12	Raven	0	0		
BR01	2023-03-09 15:20:01	Raven	0	0		
BR01	2023-03-13 09:03:21	Raven	0	0		
BR01	2023-06-12 20:58:22	Arctic hare	1	0	Running	
BR01	2023-06-13 02:09:43	Arctic hare	2	0	Running	
BR01	2023-06-15 19:00:00	Arctic hare	1	0	Running	
BR01	2023-06-21 03:31:35	Arctic hare	1	0	Running	
BR01	2023-06-27 02:24:42	Arctic hare	1	0		
BR01	2023-07-06 06:28:48	Arctic hare	1	0	Running	
BR01	2023-07-06 18:11:08	Arctic hare	1	0	Running	
BR01	2023-07-29 06:52:54	Arctic hare	1	0	Resting	
BR01	2023-08-01 20:09:16	Arctic hare	1	0	Running	
BR01	2023-08-04 07:59:38	Arctic hare	1	0	Running	
BR01	2023-08-05 23:00:00	Arctic hare	1	0	Resting	
BR01	2023-08-06 07:10:18	Arctic hare	1	0	Resting	
BR01	2023-08-06 20:28:03	Arctic hare	1	0	Running	
BR01	2023-08-07 05:39:25	Arctic hare	1	0	Running	
BR01	2023-08-09 21:01:12	Arctic hare	1	0	Running	
BR01	2023-08-10 07:23:57	Arctic hare	2	0	Walking	
BR01	2023-08-10 08:57:31	Arctic hare	1	0		
BR01	2023-08-13 01:43:42	Arctic hare	1	0	Running	
BR01	2023-08-16 07:30:00	Arctic hare	1	0	Running	
BR01	2023-08-17 15:00:00	Unknown Bird	4	0	Walking	greater white-fronted goose
BR01	2023-08-19 19:30:00	Arctic hare	1	0	Walking	
BR01	2023-08-21 17:01:16	Arctic hare	1	0	Running	
BR01	2023-08-22 08:19:56	Arctic hare	1	0	Resting	
BR01	2023-08-23 01:44:19	Arctic hare	1	0	Running	
BR06	2023-03-02 16:12:28	Caribou	1	0	Feeding	
BR01	2023-08-23 22:26:50	Arctic hare	1	0	Running	
BR01	2023-08-24 17:14:21	Arctic hare	1	0	Running	
BR06	2023-03-02 19:15:49	Caribou	1	0	Walking	
BR01	2023-08-25 13:57:22	Arctic hare	1	0	Resting	
BR01	2023-08-25 16:14:32	Arctic hare	2	0	Running	
BR06	2023-03-04 18:08:57	Caribou	1	0	Walking	
BR01	2023-08-27 07:49:59	Arctic hare	1	0	Running	
BR01	2023-08-27 15:46:10	Arctic hare	1	0	Walking	
BR01	2023-09-09 16:09:51	Arctic hare	1	0	Walking	
BR01	2023-09-09 19:20:21	Arctic hare	1	0	Resting	
BR01	2023-09-10 15:45:52	Unknown Bird	1	0	Flying	
BR01	2023-09-10 21:55:17	Arctic hare	2	0	Walking	
BR01	2023-09-10 22:30:54	Arctic hare	3	0	Walking	
BR01	2023-09-10 23:07:08	Arctic hare	3	0	Running	
BR01	2023-09-11 08:43:24	Ptarmigan	8	0	Standing	
BR01	2023-09-11 14:45:13	Ptarmigan	16	0	Walking	
BR01	2023-09-12 07:01:46	Arctic hare	1	0	Resting	

APPENDIX D: FACILITIES CAMERA MONITORING DATA, 2023

Camera Location	DateTime	Species	Number of Adults	Number of Juveniles	Behaviour	Comments
BR01	2023-09-12 21:30:00	Arctic hare	1	0	Resting	
BR01	2023-09-12 23:31:27	Arctic hare	1	0	Resting	
BR01	2023-09-13 15:53:43	Arctic hare	1	0	Running	
BR02	2023-01-25 16:01:05	Raven	1	0	Resting	
BR02	2023-01-26 02:52:47	Arctic hare	1	0	Running	
BR02	2023-01-26 04:22:10	Wolverine	1	0	Walking	
BR02	2023-01-26 10:05:42	Raven	1	0	Resting	
BR02	2023-01-26 11:15:53	Raven	1	0	Resting	
BR02	2023-01-26 12:33:39	Raven	2	0	Interacting with infrastructure	
BR02	2023-01-26 13:05:43	Raven	2	0	Resting	
BR02	2023-01-26 13:39:23	Raven	2	0	Resting	
BR02	2023-01-26 14:13:22	Raven	2	0	Resting	
BR02	2023-01-26 14:32:18	Raven	1	0	Resting	
BR02	2023-01-27 09:29:40	Raven	1	0	Resting	
BR02	2023-01-27 12:43:12	Raven	2	0	Flying	
BR02	2023-01-27 14:01:29	Raven	1	0	Resting	
BR02	2023-01-27 15:55:04	Raven	2	0	Resting	
BR02	2023-03-13 08:33:39	Raven	1	0	Resting	
BR02	2023-03-13 09:02:40	Raven	1	0	Resting	
BR02	2023-06-11 01:48:38	Arctic hare	1	0	Resting	
BR02	2023-06-11 07:19:59	Arctic hare	1	0	Walking	
BR02	2023-06-11 12:23:47	Small mammal	1	0	Resting	ground squirrel
BR02	2023-06-11 22:40:46	Arctic hare	1	0	Running	
BR02	2023-06-11 23:07:26	Arctic hare	1	0	Running	
BR02	2023-06-12 11:13:28	Small mammal	1	0	Resting	ground squirrel
BR02	2023-06-13 10:11:33	Small mammal	1	0	Resting	ground squirrel
BR02	2023-06-14 00:10:59	Arctic hare	1	0	Running	
BR02	2023-06-14 19:49:02	Raven	1	0	Resting	
BR02	2023-06-15 12:03:23	Small mammal	1	0	Resting	ground squirrel
BR02	2023-06-19 00:21:29	Arctic hare	1	0	Running	
BR02	2023-06-19 20:22:32	Raven	1	0	Resting	
BR02	2023-06-20 03:11:57	Arctic hare	1	0	Running	
BR02	2023-06-21 00:03:13	Grey wolf	1	0	Walking	
BR02	2023-06-21 01:38:41	Arctic hare	1	0	Running	
BR02	2023-06-23 04:31:34	Raven	1	0	Resting	
BR02	2023-07-29 04:20:31	Arctic hare	1	0	Resting	
BR02	2023-07-30 19:41:22	Arctic hare	1	0	Walking	
BR02	2023-07-30 21:52:44	Arctic hare	1	0	Running	
BR02	2023-07-31 00:22:54	Arctic hare	1	0	Running	
BR02	2023-07-31 03:00:49	Arctic hare	1	0	Running	
BR02	2023-07-31 06:18:42	Arctic hare	1	0	Running	
BR02	2023-07-31 08:52:55	Arctic hare	1	0	Running	
BR02	2023-08-01 06:33:52	Arctic hare	1	0	Resting	
BR02	2023-08-01 06:37:21	Arctic hare	1	0	Running	
BR02	2023-08-10 00:59:50	Arctic hare	1	0	Running	
BR02	2023-08-11 08:28:48	Arctic hare	1	0	Walking	

APPENDIX D: FACILITIES CAMERA MONITORING DATA, 2023

Camera Location	DateTime	Species	Number of Adults	Number of Juveniles	Behaviour	Comments
BR02	2023-08-14 08:08:14	Arctic hare	1	0	Running	
BR02	2023-08-14 21:01:46	Arctic hare	1	0	Running	
BR02	2023-08-15 23:36:26	Arctic hare	1	0	Running	
BR02	2023-08-16 03:41:48	Arctic hare	1	0	Running	
BR02	2023-08-16 08:01:13	Arctic hare	1	0	Walking	
BR02	2023-08-18 07:56:38	Arctic hare	1	0	Walking	
BR02	2023-08-19 08:57:04	Arctic hare	1	0	Running	
BR02	2023-08-20 12:01:56	Arctic hare	1	0	Walking	
BR02	2023-08-22 06:24:27	Arctic hare	1	0	Running	
BR02	2023-08-22 07:55:23	Arctic hare	1	0	Running	
BR02	2023-08-23 06:16:09	Arctic hare	1	0	Running	
BR02	2023-08-23 18:26:11	Arctic hare	1	0	Running	
BR02	2023-08-26 08:30:00	Arctic hare	1	0	Walking	
BR02	2023-08-27 21:21:13	Arctic hare	2	0	Running	
BR02	2023-08-28 12:29:04	Small mammal	1	0	Resting	ground squirrel
BR02	2023-08-28 20:54:51	Arctic hare	1	0	Walking	
BR02	2023-08-29 07:05:35	Arctic hare	1	0	Running	
BR02	2023-08-30 14:37:31	Ptarmigan	13	0	Walking	
BR02	2023-08-30 16:23:10	Arctic hare	1	0	Walking	
BR02	2023-08-31 07:14:26	Arctic hare	1	0	Running	
BR02	2023-08-31 16:43:16	Small mammal	1	0	Resting	ground squirrel
BR02	2023-09-01 07:00:10	Arctic hare	1	0	Resting	
BR02	2023-09-04 03:38:52	Arctic hare	1	0	Running	
BR02	2023-09-10 07:21:22	Arctic hare	1	0	Running	
BR02	2023-09-12 07:23:45	Raven	1	0	Resting	
BR02	2023-09-12 18:17:35	Arctic hare	1	0	Walking	
BR02	2023-09-12 22:19:32	Arctic hare	1	0	Walking	
BR02	2023-09-15 22:04:36	Arctic hare	1	0	Walking	
BR03	2023-01-25 15:49:49	Arctic hare	1	0	Running	
BR03	2023-02-10 18:33:54	Arctic hare	1	0	Walking	
BR03	2023-02-12 03:59:12	Arctic hare	1	0	Running	
BR03	2023-02-15 18:22:28	Red fox	1	0	Walking	
BR03	2023-03-03 07:26:11	Arctic hare	1	0	Running	
BR03	2023-03-03 15:04:20	Arctic hare	2	0	Resting	
BR03	2023-03-05 15:00:35	Arctic fox	1	0	Walking	
BR03	2023-03-12 02:30:32	Arctic hare	1	0	Running	
BR03	2023-03-23 23:08:43	Arctic hare	1	0	Running	
BR03	2023-03-25 21:16:28	Arctic hare	1	0	Running	
BR03	2023-03-26 08:47:58	Arctic hare	1	0	Running	
BR03	2023-04-10 18:40:39	Arctic hare	1	0	Running	
BR03	2023-04-12 01:07:51	Arctic hare	1	0	Running	
BR03	2023-04-14 08:29:15	Raven	1	0	Resting	
BR03	2023-04-15 00:56:56	Arctic fox	1	0	Walking	
BR03	2023-04-19 15:30:42	Ptarmigan	3	0	Standing	
BR03	2023-04-19 16:12:46	Arctic hare	1	0	Running	
BR03	2023-04-26 23:15:31	Arctic hare	1	0	Running	

APPENDIX D: FACILITIES CAMERA MONITORING DATA, 2023

Camera Location	DateTime	Species	Number of Adults	Number of Juveniles	Behaviour	Comments
BR03	2023-04-28 08:04:12	Arctic hare	1	0	Resting	
BR03	2023-04-28 11:49:43	Arctic hare	1	0	Running	
BR03	2023-04-28 12:39:10	Arctic hare	1	0	Running	
BR03	2023-04-29 08:37:40	Arctic hare	1	0	Running	
BR03	2023-05-04 09:18:10	Arctic hare	1	0	Walking	
BR03	2023-05-05 05:37:42	Arctic hare	1	0	Running	
BR03	2023-05-05 17:30:00	Ptarmigan	1	0	Feeding	
BR03	2023-05-05 18:00:00	Ptarmigan	1	0	Resting	
BR03	2023-05-06 22:00:00	Ptarmigan	1	0	Resting	
BR03	2023-05-06 23:29:46	Arctic hare	1	0	Running	
BR03	2023-05-07 22:55:59	Ptarmigan	2	0	Walking	
BR03	2023-05-08 05:46:24	Ptarmigan	5	0	Walking	
BR03	2023-05-09 11:30:00	Ptarmigan	1	0	Walking	
BR03	2023-05-13 05:32:02	Ptarmigan	1	0	Walking	
BR03	2023-05-16 19:30:00	Ptarmigan	1	0	Standing	
BR03	2023-05-16 21:30:00	Ptarmigan	1	0	Flying	
BR03	2023-05-17 17:30:00	Ptarmigan	1	0	Standing	
BR03	2023-05-22 17:40:42	Arctic fox	1	0	Walking	2 greater white-fronted geese also
BR03	2023-05-23 05:44:07	Arctic hare	1	0	Running	
BR03	2023-05-25 09:33:01	Arctic hare	1	0	Walking	
BR03	2023-05-26 07:37:50	Arctic hare	1	0	Resting	
BR03	2023-05-28 05:34:25	Arctic hare	1	0	Running	
BR03	2023-05-31 03:10:20	Arctic hare	1	0	Standing	
BR03	2023-05-31 04:37:48	Arctic hare	1	0	Running	
BR03	2023-06-10 02:20:58	Arctic hare	1	0	Running	
BR03	2023-06-14 01:29:37	Arctic hare	1	0	Running	
BR03	2023-06-14 19:21:06	Arctic fox	1	0	Walking	
BR03	2023-06-17 08:40:08	Arctic hare	1	0	Running	
BR03	2023-06-19 02:04:07	Arctic hare	1	0	Resting	
BR03	2023-06-19 09:00:00	Arctic hare	1	0	Resting	
BR03	2023-06-20 06:59:23	Arctic hare	1	0	Walking	
BR03	2023-06-22 03:38:43	Arctic hare	1	0	Running	
BR03	2023-06-22 04:01:49	Arctic hare	1	0	Running	
BR03	2023-06-22 08:57:32	Arctic hare	1	0	Running	
BR03	2023-06-23 08:39:11	Arctic hare	1	0	Running	
BR03	2023-06-28 00:35:30	Arctic hare	1	0	Running	
BR03	2023-07-01 06:57:12	Arctic hare	1	0	Running	
BR03	2023-07-03 06:14:47	Arctic hare	1	0	Running	
BR03	2023-07-03 06:47:20	Arctic hare	1	0	Running	
BR03	2023-07-04 02:36:31	Arctic hare	1	0	Running	
BR03	2023-07-05 03:43:43	Arctic hare	1	0	Running	
BR03	2023-07-05 20:36:33	Arctic hare	1	0	Running	
BR03	2023-07-06 20:35:10	Arctic hare	1	0	Running	
BR03	2023-07-07 22:18:05	Arctic hare	1	0	Running	
BR03	2023-07-08 09:04:24	Arctic hare	1	0	Walking	
BR03	2023-07-10 03:11:04	Arctic hare	1	0	Running	

APPENDIX D: FACILITIES CAMERA MONITORING DATA, 2023

Camera Location	DateTime	Species	Number of Adults	Number of Juveniles	Behaviour	Comments
BR03	2023-07-10 06:20:22	Arctic hare	1	0	Running	
BR03	2023-07-11 06:21:29	Arctic hare	1	0	Running	
BR03	2023-07-11 08:44:56	Arctic hare	1	0	Walking	
BR03	2023-07-11 17:04:13	Arctic hare	1	0	Running	
BR03	2023-07-14 10:26:32	Arctic hare	1	0	Running	
BR03	2023-07-14 11:06:10	Arctic hare	1	0	Running	
BR03	2023-07-15 07:55:17	Arctic hare	1	0	Running	
BR03	2023-07-16 06:47:10	Arctic hare	1	0	Running	
BR03	2023-07-16 20:10:07	Arctic hare	1	0	Running	
BR03	2023-07-18 06:09:12	Arctic hare	1	0	Running	
BR03	2023-07-18 20:54:11	Arctic fox	1	0	Walking	
BR03	2023-07-19 05:54:20	Arctic hare	1	0	Standing	
BR03	2023-07-19 06:47:48	Arctic hare	1	0	Running	
BR03	2023-07-19 07:03:37	Arctic hare	1	0	Running	
BR03	2023-07-19 19:28:57	Arctic hare	1	0	Running	
BR03	2023-07-20 17:28:39	Arctic hare	1	0	Running	
BR03	2023-07-21 08:22:14	Arctic hare	1	0	Running	
BR03	2023-07-21 19:46:59	Arctic hare	1	0	Running	
BR03	2023-07-22 08:45:07	Small mammal	1	0	Running	ground squirrel
BR03	2023-07-24 06:14:45	Arctic hare	1	0	Running	
BR03	2023-07-24 06:34:15	Arctic hare	1	0	Running	
BR03	2023-07-24 08:09:36	Arctic hare	1	0	Running	
BR03	2023-07-25 19:57:33	Arctic hare	1	0	Running	
BR03	2023-07-26 07:19:18	Arctic hare	1	0	Running	
BR03	2023-07-26 15:03:09	Arctic hare	1	0	Running	
BR03	2023-07-27 17:58:27	Arctic hare	1	0	Running	
BR03	2023-07-28 04:44:09	Arctic hare	1	0	Running	
BR03	2023-07-28 05:29:28	Arctic hare	1	0	Resting	
BR03	2023-07-28 08:03:38	Arctic hare	1	0	Running	
BR03	2023-07-28 21:34:48	Arctic hare	1	0	Running	
BR03	2023-07-30 17:37:57	Arctic hare	1	0	Running	
BR03	2023-07-31 10:48:17	Arctic hare	1	0	Resting	
BR03	2023-08-01 05:44:47	Arctic hare	3	0	Running	
BR03	2023-08-01 16:34:45	Arctic hare	1	0	Running	
BR03	2023-08-02 23:57:20	Arctic hare	1	0	Running	
BR03	2023-08-03 06:16:50	Arctic hare	1	0	Running	
BR06	2023-03-05 19:34:52	Caribou	1	0	Walking	
BR03	2023-08-03 23:52:36	Arctic hare	1	0	Running	
BR03	2023-08-04 06:01:10	Arctic hare	1	0	Running	
BR03	2023-08-04 08:02:25	Arctic hare	1	0	Running	
BR03	2023-08-04 08:41:27	Arctic hare	1	0	Running	
BR03	2023-08-06 06:15:17	Arctic hare	3	0	Running	
BR03	2023-08-06 08:31:24	Arctic hare	1	0	Running	
BR03	2023-08-08 07:36:15	Arctic hare	1	0	Running	
BR03	2023-08-11 23:11:39	Arctic hare	2	0	Running	
BR03	2023-08-13 03:54:37	Ptarmigan	2	0	Walking	

APPENDIX D: FACILITIES CAMERA MONITORING DATA, 2023

Camera Location	DateTime	Species	Number of Adults	Number of Juveniles	Behaviour	Comments
BR03	2023-08-13 05:22:34	Arctic hare	1	0	Running	
BR03	2023-08-16 04:17:56	Arctic hare	1	0	Running	
BR03	2023-08-17 06:02:56	Arctic hare	1	0	Running	
BR03	2023-08-17 07:08:43	Arctic hare	1	0	Running	
BR03	2023-08-17 23:18:50	Arctic hare	1	0	Running	
BR03	2023-08-20 20:18:45	Arctic hare	1	0	Running	
BR03	2023-08-22 03:17:17	Arctic hare	1	0	Running	
BR03	2023-08-23 07:26:31	Arctic hare	1	0	Running	
BR03	2023-08-24 01:28:23	Arctic hare	1	0	Running	
BR03	2023-08-24 04:45:17	Arctic hare	2	0	Running	
BR03	2023-08-24 06:19:55	Arctic hare	1	0	Resting	
BR03	2023-08-24 21:38:33	Arctic hare	1	0	Running	
BR03	2023-08-25 18:58:09	Arctic hare	1	0	Running	
BR03	2023-08-26 18:45:32	Arctic hare	1	0	Running	
BR03	2023-08-27 03:45:26	Arctic hare	1	0	Resting	
BR03	2023-08-27 07:35:09	Arctic hare	1	0	Walking	
BR03	2023-08-27 21:56:51	Arctic hare	1	0	Running	
BR03	2023-08-28 03:42:51	Arctic hare	1	0	Running	
BR03	2023-08-29 02:56:46	Arctic hare	1	0	Running	
BR03	2023-08-30 03:27:18	Arctic hare	1	0	Running	
BR03	2023-09-04 21:29:46	Arctic hare	1	0	Running	
BR03	2023-09-04 23:18:58	Arctic hare	1	0	Running	
BR03	2023-09-05 01:45:14	Arctic hare	1	0	Running	
BR03	2023-09-05 02:31:40	Arctic hare	1	0	Running	
BR03	2023-09-05 05:12:06	Arctic hare	1	0	Running	
BR03	2023-09-05 20:15:26	Arctic hare	1	0	Running	
BR03	2023-09-05 21:28:02	Arctic hare	1	0	Running	
BR03	2023-09-06 00:13:00	Arctic hare	1	0	Running	
BR03	2023-09-07 02:00:28	Arctic hare	1	0	Running	
BR03	2023-09-07 18:59:55	Arctic hare	1	0	Running	
BR03	2023-09-07 21:58:11	Arctic hare	1	0	Running	
BR03	2023-09-10 03:08:56	Arctic hare	1	0	Running	
BR03	2023-09-10 05:54:18	Arctic hare	1	0	Running	
BR03	2023-09-10 06:43:34	Arctic hare	2	0	Running	
BR03	2023-09-10 21:15:53	Arctic hare	1	0	Running	
BR03	2023-09-10 22:33:46	Arctic hare	1	0	Running	
BR03	2023-09-14 06:08:16	Arctic hare	1	0	Running	
BR03	2023-09-14 20:58:33	Arctic hare	1	0	Running	
BR03	2023-09-14 22:54:51	Arctic hare	1	0	Running	
BR03	2023-09-15 04:34:40	Arctic hare	1	0	Running	
BR03	2023-09-15 19:17:45	Arctic hare	1	0	Running	
BR03	2023-09-15 20:57:40	Arctic hare	1	0	Running	
BR04	2023-02-04 08:50:08	Arctic hare	1	0	Resting	
BR04	2023-02-07 21:50:44	Arctic hare	1	0	Resting	
BR04	2023-02-12 04:19:24	Arctic hare	1	0	Resting	
BR04	2023-02-15 07:39:16	Arctic hare	1	0	Walking	

APPENDIX D: FACILITIES CAMERA MONITORING DATA, 2023

Camera Location	DateTime	Species	Number of Adults	Number of Juveniles	Behaviour	Comments
BR04	2023-02-22 19:30:00	Arctic hare	1	0	Running	
BR04	2023-02-26 23:17:10	Grey wolf	1	0	Walking	
BR04	2023-03-02 18:30:00	Arctic hare	1	0	Standing	
BR04	2023-03-05 23:30:00	Arctic hare	1	0	Walking	
BR04	2023-03-05 23:49:17	Arctic hare	1	0	Running	
BR04	2023-03-06 06:21:51	Arctic hare	1	0	Running	
BR04	2023-04-02 19:07:03	Arctic hare	1	0	Resting	
BR04	2023-04-08 17:10:26	Raven	1	0	Walking	
BR04	2023-04-15 21:14:14	Arctic hare	1	0	Resting	
BR04	2023-04-22 02:48:42	Arctic hare	1	0	Running	
BR04	2023-04-24 20:57:23	Arctic hare	1	0	Running	
BR04	2023-04-24 22:45:18	Arctic hare	1	0	Resting	
BR04	2023-04-25 10:00:00	Ptarmigan	6	0	Resting	
BR04	2023-05-20 19:48:25	Unknown Bird	1	0	Flying	
BR04	2023-05-28 15:41:09	Arctic hare	1	0	Resting	
BR04	2023-06-02 04:00:00	Unknown Bird	1	0	Standing	
BR04	2023-06-03 01:53:54	Arctic hare	1	0	Feeding	
BR04	2023-06-04 22:03:36	Arctic hare	1	0	Walking	
BR04	2023-06-13 03:30:07	Arctic hare	1	0	Resting	
BR04	2023-06-13 05:24:06	Arctic hare	1	0	Standing	
BR04	2023-06-15 21:40:38	Arctic hare	2	0	Walking	
BR04	2023-06-17 23:38:39	Arctic hare	1	0	Running	
BR04	2023-06-18 00:30:00	Arctic hare	1	0	Standing	
BR04	2023-06-20 16:38:33	Arctic hare	1	0	Running	
BR04	2023-06-22 01:46:45	Arctic hare	2	0	Resting	
BR04	2023-06-24 22:49:53	Arctic hare	1	0	Running	
BR04	2023-06-26 00:05:21	Arctic hare	1	0	Walking	
BR04	2023-06-28 09:43:45	Ptarmigan	1	0	Walking	
BR04	2023-06-30 07:00:00	Arctic hare	1	0	Resting	
BR04	2023-07-01 09:06:33	Ptarmigan	1	1	Walking	
BR04	2023-07-03 07:34:53	Arctic hare	1	0	Walking	
BR04	2023-07-03 07:34:54	Raven	1	0	Flying	
BR04	2023-07-03 20:16:43	Arctic hare	1	0	Running	
BR04	2023-07-06 05:04:42	Arctic hare	0	1	Walking	
BR04	2023-07-06 05:54:08	Arctic hare	1	0	Walking	
BR04	2023-07-06 08:47:00	Arctic hare	1	0	Walking	
BR04	2023-07-06 20:27:03	Unknown Bird	1	0	Walking	
BR04	2023-07-06 20:38:35	Arctic hare	1	0	Walking	
BR04	2023-07-08 16:37:49	Arctic hare	1	0	Resting	
BR04	2023-07-08 18:55:56	Arctic hare	1	0	Walking	
BR04	2023-07-09 08:25:10	Unknown Bird	1	0	Walking	
BR04	2023-07-10 21:23:36	Arctic hare	0	1	Feeding	
BR04	2023-07-12 06:30:00	Unknown Bird	1	0	Standing	
BR04	2023-07-13 07:30:00	Arctic hare	1	0	Resting	
BR04	2023-07-16 13:57:13	Ptarmigan	2	4	Feeding	
BR04	2023-07-18 06:19:11	Arctic hare	1	0	Walking	

APPENDIX D: FACILITIES CAMERA MONITORING DATA, 2023

Camera Location	DateTime	Species	Number of Adults	Number of Juveniles	Behaviour	Comments
BR04	2023-07-18 20:30:00	Unknown Bird	1	0	Standing	
BR04	2023-07-20 11:45:36	Ptarmigan	0	3	Walking	
BR04	2023-07-20 12:39:22	Ptarmigan	0	1	Standing	
BR04	2023-07-22 07:57:08	Arctic hare	1	0	Standing	
BR04	2023-07-24 20:22:15	Arctic hare	1	0	Running	
BR04	2023-07-24 22:18:29	Arctic hare	1	0	Feeding	
BR04	2023-07-25 21:32:39	Arctic hare	1	0	Feeding	
BR04	2023-07-25 22:30:00	Arctic hare	1	0	Standing	
BR04	2023-07-28 16:09:18	Arctic hare	1	0	Walking	
BR04	2023-07-30 07:00:00	Arctic hare	1	0	Standing	
BR04	2023-07-30 15:45:31	Arctic hare	1	0	Walking	
BR04	2023-07-30 20:40:07	Arctic hare	1	0	Walking	
BR04	2023-07-31 05:13:32	Arctic hare	1	0	Running	
BR04	2023-07-31 14:50:51	Arctic hare	1	0	Walking	
BR04	2023-07-31 18:12:48	Arctic hare	1	0	Resting	
BR04	2023-07-31 22:00:00	Arctic hare	1	0	Feeding	
BR04	2023-08-02 20:54:31	Arctic hare	1	0	Resting	
BR04	2023-08-02 21:42:56	Arctic hare	1	0	Feeding	
BR04	2023-08-03 06:27:04	Arctic hare	1	0	Feeding	
BR04	2023-08-03 15:23:19	Arctic hare	1	0	Feeding	
BR04	2023-08-03 19:49:17	Arctic hare	1	0	Feeding	
BR04	2023-08-03 22:40:22	Arctic hare	1	0	Running	
BR04	2023-08-05 21:30:00	Arctic hare	1	0	Feeding	
BR04	2023-08-09 17:06:48	Arctic hare	1	0	Walking	
BR04	2023-08-09 17:28:22	Arctic hare	1	0	Feeding	
BR04	2023-08-10 17:49:25	Arctic hare	1	0	Walking	
BR04	2023-08-12 02:00:00	Arctic hare	1	0	Resting	
BR04	2023-08-12 03:30:00	Arctic hare	1	0	Feeding	
BR04	2023-08-12 04:30:00	Arctic hare	1	0	Resting	
BR04	2023-08-12 06:34:14	Arctic hare	1	0	Walking	
BR04	2023-08-12 19:27:46	Arctic hare	1	0	Resting	
BR04	2023-08-13 20:00:00	Arctic hare	1	0	Resting	
BR04	2023-08-14 18:26:06	Arctic hare	1	0	Walking	
BR04	2023-08-14 19:00:00	Arctic hare	1	0	Resting	
BR04	2023-08-15 03:12:21	Arctic hare	1	0	Running	
BR04	2023-08-16 04:30:00	Arctic hare	1	0	Resting	
BR04	2023-08-17 16:28:13	Arctic hare	1	0	Feeding	
BR04	2023-08-17 19:00:00	Arctic hare	1	0	Walking	
BR04	2023-08-17 19:40:24	Arctic hare	1	0	Resting	
BR04	2023-08-18 08:40:34	Arctic hare	1	0	Walking	
BR04	2023-08-18 15:41:24	Arctic hare	1	0	Walking	
BR04	2023-08-18 16:16:38	Arctic hare	1	0	Walking	
BR04	2023-08-18 18:00:00	Arctic hare	1	0	Resting	
BR04	2023-08-18 18:15:05	Arctic hare	1	0	Walking	
BR04	2023-08-19 15:30:00	Arctic hare	1	0	Resting	
BR04	2023-08-19 16:20:03	Arctic hare	1	0	Walking	

APPENDIX D: FACILITIES CAMERA MONITORING DATA, 2023

Camera Location	DateTime	Species	Number of Adults	Number of Juveniles	Behaviour	Comments
BR04	2023-08-20 15:05:10	Arctic hare	1	0	Resting	
BR04	2023-08-21 07:33:21	Arctic hare	1	0	Walking	
BR04	2023-08-21 16:12:00	Arctic hare	1	0	Resting	
BR04	2023-08-21 16:30:00	Arctic hare	2	0	Resting	
BR04	2023-08-22 08:04:39	Arctic hare	1	0	Walking	
BR04	2023-08-22 23:00:00	Arctic hare	1	0	Resting	
BR04	2023-08-23 02:01:06	Arctic hare	1	0	Resting	
BR04	2023-08-23 17:00:00	Arctic hare	1	0	Resting	
BR04	2023-08-23 17:49:11	Arctic hare	2	0	Walking	
BR04	2023-08-23 18:52:49	Arctic hare	1	0	Feeding	
BR04	2023-08-23 23:00:00	Arctic hare	1	0	Walking	
BR04	2023-08-24 00:00:00	Arctic hare	1	0	Resting	
BR04	2023-08-24 16:10:46	Arctic hare	1	0	Walking	
BR04	2023-08-24 19:33:19	Arctic hare	2	0	Resting	
BR04	2023-08-24 20:14:03	Arctic hare	1	0	Resting	
BR04	2023-08-25 17:30:00	Arctic hare	2	0	Walking	
BR04	2023-08-25 19:30:00	Arctic hare	1	0		
BR04	2023-08-26 19:00:00	Arctic hare	2	0	Resting	
BR04	2023-08-27 15:26:22	Arctic hare	1	0	Feeding	
BR04	2023-08-27 15:43:36	Arctic hare	1	0	Feeding	
BR04	2023-08-27 16:00:00	Arctic hare	1	0	Resting	
BR04	2023-08-27 17:00:00	Arctic hare	1	0	Resting	
BR04	2023-08-27 17:23:48	Arctic hare	2	0	Resting	
BR04	2023-08-27 18:41:12	Arctic hare	1	0	Walking	
BR04	2023-08-28 05:28:22	Arctic hare	1	0	Resting	
BR04	2023-08-28 17:00:00	Arctic hare	1	0	Resting	
BR04	2023-08-28 17:30:00	Arctic hare	2	0	Resting	
BR04	2023-08-28 19:41:30	Arctic hare	1	0	Resting	
BR04	2023-08-28 22:35:27	Arctic hare	1	0	Running	
BR04	2023-08-29 16:22:37	Arctic hare	1	0	Walking	
BR04	2023-08-29 22:00:00	Arctic hare	1	0	Resting	
BR04	2023-08-30 01:30:00	Arctic hare	1	0	Resting	
BR04	2023-08-31 18:00:00	Arctic hare	2	0	Walking	
BR04	2023-08-31 18:30:00	Arctic hare	2	0	Resting	
BR04	2023-08-31 20:55:46	Arctic hare	1	0	Resting	
BR04	2023-09-03 16:30:00	Arctic hare	1	0	Walking	
BR06	2023-03-07 02:26:20	Caribou	1	0	Walking	
BR04	2023-09-04 21:30:00	Arctic hare	1	0	Feeding	
BR04	2023-09-05 16:27:42	Arctic hare	1	0	Running	
BR04	2023-09-05 19:18:55	Arctic hare	1	0	Running	
BR04	2023-09-06 01:30:00	Arctic hare	1	0	Feeding	
BR04	2023-09-06 02:00:00	Arctic hare	1	0	Resting	
BR04	2023-09-06 16:22:56	Arctic hare	1	0	Walking	
BR04	2023-09-06 17:32:19	Arctic hare	1	0	Feeding	
BR04	2023-09-06 17:55:33	Arctic hare	1	0	Walking	
BR04	2023-09-06 18:23:24	Arctic hare	2	0	Resting	

APPENDIX D: FACILITIES CAMERA MONITORING DATA, 2023

Camera Location	DateTime	Species	Number of Adults	Number of Juveniles	Behaviour	Comments
BR04	2023-09-06 20:01:34	Arctic hare	2	0	Walking	
BR04	2023-09-07 18:06:19	Arctic hare	1	0	Walking	
BR04	2023-09-07 19:00:00	Arctic hare	1	0	Walking	
BR04	2023-09-07 19:37:19	Arctic hare	1	0	Running	
BR04	2023-09-08 16:41:56	Arctic hare	1	0	Walking	
BR04	2023-09-09 18:41:45	Arctic hare	1	0	Walking	
BR04	2023-09-10 01:54:52	Arctic hare	1	0	Running	
BR04	2023-09-10 16:05:20	Arctic hare	1	0	Walking	
BR04	2023-09-10 16:22:15	Arctic hare	1	0	Walking	
BR04	2023-09-10 19:00:00	Arctic hare	1	0	Walking	
BR04	2023-09-11 06:30:00	Ptarmigan	1	0	Resting	
BR04	2023-09-11 16:36:18	Arctic hare	1	0	Walking	
BR04	2023-09-12 15:09:48	Arctic hare	1	0	Walking	
BR04	2023-09-13 16:00:00	Arctic hare	1	0	Resting	
BR04	2023-09-13 18:03:49	Arctic hare	1	0	Running	
BR04	2023-09-14 16:43:13	Arctic hare	1	0	Walking	
BR04	2023-09-14 17:08:49	Arctic hare	1	0	Resting	
BR05	2023-04-25 11:49:07	Ptarmigan	1	0	Resting	
BR05	2023-04-25 16:06:32	Arctic hare	1	0	Resting	
BR05	2023-04-28 06:44:01	Ptarmigan	1	0	Resting	
BR05	2023-07-03 04:37:27	Arctic hare	1	0	Walking	
BR05	2023-07-05 06:56:04	Arctic hare	1	0	Walking	
BR05	2023-07-05 22:07:11	Arctic hare	1	0	Walking	
BR05	2023-07-07 06:13:11	Arctic hare	1	0	Walking	
BR05	2023-07-08 09:18:53	Arctic hare	1	0	Walking	
BR05	2023-07-22 09:30:00	Unknown Bird	1	0	Running	
BR05	2023-07-23 08:48:30	Arctic hare	1	0	Running	
BR05	2023-07-24 08:00:00	Unknown Bird	1	0	Resting	
BR05	2023-07-27 09:51:10	Arctic hare	1	0	Running	
BR05	2023-08-06 06:02:39	Arctic hare	2	0	Running	
BR05	2023-08-08 08:55:23	Arctic hare	1	0	Running	
BR05	2023-08-16 22:00:57	Arctic hare	1	0	Running	
BR05	2023-08-19 23:36:36	Arctic hare	1	0	Running	
BR05	2023-08-20 05:59:06	Arctic hare	1	0	Walking	
BR05	2023-08-23 04:34:11	Arctic hare	1	0	Running	
BR05	2023-08-24 21:40:11	Arctic hare	1	0	Walking	
BR05	2023-08-28 04:32:24	Arctic hare	1	0	Running	
BR05	2023-08-29 04:10:13	Arctic hare	1	0	Running	
BR05	2023-08-29 07:46:00	Ptarmigan	4	0	Walking	
BR05	2023-09-03 05:49:21	Ptarmigan	12	0	Resting	
BR05	2023-09-03 06:26:09	Ptarmigan	6	0	Resting	
BR05	2023-09-05 05:59:29	Ptarmigan	2	0	Resting	
BR05	2023-09-05 06:04:57	Arctic hare	1	0	Walking	
BR05	2023-09-06 06:30:00	Ptarmigan	1	0	Resting	
BR05	2023-09-06 08:52:29	Ptarmigan	7	0	Resting	
BR05	2023-09-06 22:40:16	Arctic hare	1	0	Running	

APPENDIX D: FACILITIES CAMERA MONITORING DATA, 2023

Camera Location	DateTime	Species	Number of Adults	Number of Juveniles	Behaviour	Comments
BR05	2023-09-07 17:47:22	Arctic hare	1	0	Running	
BR05	2023-09-09 06:39:03	Ptarmigan	19	0	Resting	
BR05	2023-09-10 06:30:00	Ptarmigan	20	0	Resting	
BR05	2023-09-13 07:30:00	Ptarmigan	3	0	Resting	
BR05	2023-09-13 13:00:00	Ptarmigan	2	0	Resting	
BR06	2023-01-26 03:35:11	Arctic hare	1	0	Walking	
BR06	2023-03-08 12:02:48	Caribou	1	0	Walking	
BR06	2023-03-08 19:21:12	Caribou	1	0	Walking	
BR06	2023-03-02 23:53:08	Arctic hare	1	0	Walking	
BR06	2023-03-10 19:58:35	Caribou	1	0	Walking	
BR06	2023-03-11 09:53:35	Caribou	1	0	Running	
BR06	2023-03-12 19:01:40	Caribou	1	0	Walking	
BR06	2023-03-13 18:23:12	Caribou	1	0	Walking	
BR06	2023-03-14 08:54:38	Caribou	1	0	Walking	
BR06	2023-03-14 09:30:00	Caribou	1	0	Feeding	
BR06	2023-03-14 10:00:00	Caribou	1	0	Feeding	
BR06	2023-03-14 10:17:24	Caribou	1	0	Walking	
BR06	2023-03-14 12:24:01	Caribou	1	0	Walking	
BR06	2023-03-14 17:30:45	Caribou	1	0	Walking	
BR06	2023-03-15 04:05:18	Caribou	1	0	Walking	
BR06	2023-03-15 05:00:00	Caribou	1	0	Feeding	
BR06	2023-03-15 05:30:00	Caribou	1	0	Feeding	
BR06	2023-03-15 08:25:22	Caribou	1	0	Walking	
BR06	2023-03-15 18:07:28	Caribou	1	0	Walking	
BR06	2023-03-15 18:24:37	Caribou	1	0	Walking	
BR06	2023-03-16 08:32:48	Caribou	1	0	Walking	
BR06	2023-03-19 02:18:24	Caribou	1	0	Walking	
BR06	2023-03-24 22:38:41	Caribou	1	0	Walking	
BR06	2023-03-26 07:29:09	Caribou	1	0	Feeding	
BR06	2023-03-27 08:56:23	Caribou	1	0	Walking	
BR06	2023-03-28 15:02:28	Caribou	1	0	Walking	
BR06	2023-03-29 05:25:07	Caribou	1	0	Walking	
BR06	2023-03-30 11:38:55	Caribou	1	0	Walking	
BR06	2023-04-02 17:48:48	Caribou	1	0	Walking	
BR06	2023-04-04 13:30:00	Caribou	1	0	Feeding	
BR06	2023-04-05 19:43:49	Caribou	1	0	Feeding	
BR06	2023-04-06 04:22:11	Caribou	1	0	Feeding	
BR06	2023-04-06 04:52:40	Caribou	1	0	Feeding	
BR06	2023-04-07 21:29:34	Caribou	1	0	Running	
BR06	2023-04-07 22:00:00	Caribou	1	0	Feeding	
BR06	2023-04-08 20:30:53	Caribou	1	0	Feeding	
BR06	2023-04-09 07:52:15	Caribou	1	0	Feeding	
BR06	2023-04-09 10:02:27	Caribou	1	0	Walking	
BR06	2023-04-11 09:59:46	Caribou	1	0	Feeding	
BR06	2023-04-13 19:27:38	Caribou	1	0	Walking	
BR03	2023-08-03 12:08:40	Caribou	1	0	Walking	

APPENDIX D: FACILITIES CAMERA MONITORING DATA, 2023

Camera Location	DateTime	Species	Number of Adults	Number of Juveniles	Behaviour	Comments
BR01	2023-08-23 07:18:43	Caribou	3	0	Feeding	
BR01	2023-08-24 19:54:26	Caribou	2	0	Feeding	
BR01	2023-08-26 18:18:31	Caribou	2	0	Feeding	
BR06	2023-04-13 11:02:37	Arctic fox	1	0	Walking	
BR04	2023-09-04 04:57:33	Caribou	2	0	Feeding	
BR06	2023-04-29 09:51:44	Raven	1	0	Flying	
BR06	2023-07-18 18:05:29	Raven	2	0	Walking	
BR01	2023-09-20 14:21:14	Arctic hare	1	0		
BR01	2023-09-21 15:45:05	Arctic hare	1	0		
BR01	2023-09-22 14:41:52	Unknown Bird	17	0		Unk duck
BR01	2023-09-22 15:11:12	Arctic hare	1	0	Walking	
BR01	2023-09-22 16:04:24	Arctic hare	1	0	Walking	
BR01	2023-09-22 16:04:24	Rock ptarmigan	11	0	Resting	
BR01	2023-09-23 07:25:51	Arctic hare	1	0	Walking	
BR01	2023-09-25 07:46:44	Arctic hare	1	0	Resting	
BR01	2023-09-25 08:45:34	Rock ptarmigan	1	0	Resting	
BR01	2023-09-25 15:51:06	Arctic hare	1	0	Resting	
BR01	2023-09-26 17:04:01	Arctic hare	1	0	Resting	
BR01	2023-09-26 18:22:27	Arctic hare	1	0	Feeding	
BR01	2023-09-28 19:30:00	Arctic hare	1	0	Resting	
BR01	2023-09-30 14:28:20	Arctic hare	1	0	Resting	
BR01	2023-09-30 16:46:21	Arctic hare	1	0	Resting	
BR01	2023-09-30 18:00:00	Arctic hare	1	0	Resting	
BR01	2023-09-30 19:03:51	Rock ptarmigan	12	0	Resting	
BR01	2023-10-01 11:09:07	Rock ptarmigan	1	0	Resting	
BR01	2023-10-01 11:32:11	Arctic hare	1	0	Feeding	
BR01	2023-10-01 11:53:17	Arctic hare	1	0	Resting	
BR01	2023-10-01 13:02:57	Rock ptarmigan	8	0	Feeding	
BR01	2023-10-01 13:18:52	Rock ptarmigan	8	0	Feeding	
BR01	2023-10-01 18:46:34	Arctic hare	1	0	Running	
BR01	2023-10-02 12:31:32	Rock ptarmigan	6	0	Resting	
BR01	2023-10-02 14:14:01	Arctic hare	1	0	Walking	
BR01	2023-10-03 11:17:05	Rock ptarmigan	7	0	Resting	
BR01	2023-10-04 16:09:13	Arctic hare	1	0	Resting	
BR01	2023-10-26 15:01:40	Raven	1	0	Flying	
BR01	2023-10-28 11:38:37	Raven	2	0	Flying	
BR01	2023-10-28 15:48:45	Raven	2	0	Flying	
BR01	2023-10-29 02:58:10	Arctic hare	1	0	Running	
BR01	2023-10-29 16:25:31	Raven	1	0	Flying	
BR01	2023-11-01 08:38:25	Raven	1	0	Interacting with infrastructure	raven. sitting on truck bed.
BR01	2023-11-04 02:15:21	Arctic hare	1	0	Resting	
BR01	2023-11-04 18:30:00	Rock ptarmigan	4	0	Resting	
BR01	2023-11-06 18:36:11	Arctic hare	1	0	Resting	
BR01	2023-11-10 00:00:00	Arctic hare	1	0	Walking	
BR01	2023-11-10 00:30:00	Arctic hare	1	0	Running	
BR01	2023-11-11 08:27:51	Arctic hare	1	0	Running	

APPENDIX D: FACILITIES CAMERA MONITORING DATA, 2023

Camera Location	DateTime	Species	Number of Adults	Number of Juveniles	Behaviour	Comments
BR01	2023-11-11 16:30:00	Arctic hare	1	0	Resting	
BR01	2023-12-11 12:16:47	Raven	1	0	Flying	
BR02	2023-10-03 07:44:13	Arctic hare	2	0	Running	
BR02	2023-10-09 01:14:10	Arctic hare	1	0	Running	
BR02	2023-10-27 13:37:40	Raven	1	0	Resting	
BR02	2023-10-27 14:09:29	Raven	1	0	Interacting with infrastructure	raven. sitting on truck bed.
BR02	2023-10-27 15:00:00	Raven	1	0	Resting	
BR02	2023-10-28 12:42:08	Raven	1	0	Resting	
BR02	2023-10-28 15:44:14	Raven	3	0	Interacting with infrastructure	ravens. landing on bags of garbage prior to loading into storage.
BR02	2023-10-29 09:16:54	Raven	2	0	Interacting with infrastructure	raven. sitting on truck bed.
BR02	2023-10-29 10:33:38	Raven	1	0	Interacting with infrastructure	raven. sitting on truck bed.
BR02	2023-10-29 14:27:17	Raven	3	0	Interacting with infrastructure	ravens. landing on bags of garbage prior to loading into storage.
BR02	2023-11-03 16:30:12	Raven	1	0	Interacting with infrastructure	ravens. landing on bags of garbage prior to loading into storage.
BR02	2023-11-03 17:00:00	Raven	2	0	Resting	
BR02	2023-11-18 14:57:54	Raven	1	0	Resting	
BR02	2023-11-18 15:25:15	Raven	1	0	Flying	
BR02	2023-11-24 15:31:38	Raven	2	0	Interacting with infrastructure	ravens. landing on bags of garbage prior to loading into storage.
BR02	2023-11-28 10:00:00	Raven	1	0	Resting	
BR02	2023-11-28 10:26:06	Raven	1	0	Interacting with infrastructure	
BR02	2023-11-28 10:56:32	Raven	1	0	Interacting with infrastructure	
BR02	2023-11-28 11:36:07	Raven	1	0	Resting	
BR02	2023-11-28 15:12:17	Raven	3	0	Interacting with infrastructure	swooping garbage being transferred to incinerator
BR02	2023-11-28 18:26:31	Raven	1	0	Resting	
BR02	2023-11-28 23:00:00	Arctic hare	1	0	Resting	
BR02	2023-11-29 04:30:00	Arctic hare	1	0	Resting	
BR02	2023-12-02 10:16:18	Raven	1	0	Resting	
BR02	2023-12-02 11:06:08	Raven	2	0	Interacting with infrastructure	
BR02	2023-12-02 14:33:38	Raven	1	0	Interacting with infrastructure	
BR02	2023-12-08 10:48:49	Raven	1	0	Resting	
BR02	2023-12-08 14:09:18	Raven	1	0	Flying	
BR02	2023-12-08 16:08:51	Raven	1	0	Flying	
BR02	2023-12-08 18:11:46	Raven	1	0	Resting	
BR02	2023-12-09 12:54:33	Raven	0	0	Resting	
BR02	2023-12-09 14:49:38	Raven	1	0	Resting	
BR02	2023-12-11 09:12:47	Raven	1	0	Resting	
BR02	2023-12-11 09:46:13	Raven	1	0	Interacting with infrastructure	raven. sitting on truck bed.
BR02	2023-12-11 11:06:37	Raven	1	0	Interacting with infrastructure	raven. sitting on truck bed.
BR02	2023-12-11 12:04:02	Raven	1	0	Flying	
BR02	2023-12-11 12:55:39	Raven	1	0	Flying	
BR02	2023-12-11 14:00:00	Raven	1	0	Interacting with infrastructure	resting on edge of truck bed (empty)
BR02	2023-12-11 14:24:04	Raven	1	0	Interacting with infrastructure	
BR02	2023-12-11 16:29:30	Raven	1	0	Interacting with infrastructure	In back of pickup
BR02	2023-12-12 09:23:33	Raven	1	0	Interacting with infrastructure	In back of pickup
BR02	2023-12-12 10:13:32	Raven	1	0	Interacting with infrastructure	In back of pickup
BR02	2023-12-12 11:03:34	Raven	1	0	Interacting with infrastructure	In back of pickup
BR02	2023-12-12 11:37:10	Raven	1	0	Interacting with infrastructure	In back of pickup

APPENDIX D: FACILITIES CAMERA MONITORING DATA, 2023

Camera Location	DateTime	Species	Number of Adults	Number of Juveniles	Behaviour	Comments
BR02	2023-12-12 14:25:54	Raven	1	0	Interacting with infrastructure	In back of pickup
BR02	2023-12-23 14:42:32	Raven	1	0	Flying	
BR02	2023-12-24 10:09:05	Raven	1	0	Resting	
BR02	2023-12-24 10:37:20	Raven	1	0	Interacting with infrastructure	In back of pickup
BR02	2023-12-24 11:32:28	Raven	1	0	Resting	
BR02	2023-12-24 11:52:57	Raven	1	0	Flying	
BR02	2023-12-24 12:57:00	Raven	2	0	Interacting with infrastructure	Attempting to access closed totes. No access.
BR02	2023-12-24 13:30:00	Raven	1	0	Interacting with infrastructure	Attempting to access closed totes. No access.
BR02	2023-12-24 13:48:45	Raven	1	0	Resting	
BR02	2023-12-24 14:54:16	Raven	1	0	Resting	
BR02	2023-12-24 15:18:42	Raven	1	0	Interacting with infrastructure	In back of pickup
BR02	2023-12-25 10:05:32	Raven	2	0	Interacting with infrastructure	On closed tote
BR02	2023-12-26 11:10:27	Raven	1	0	Resting	
BR02	2023-12-26 13:23:22	Raven	1	0	Interacting with infrastructure	Climbing on empty tote
BR02	2023-12-26 15:06:52	Raven	1	0	Interacting with infrastructure	In back of pickup
BR02	2023-12-26 18:12:58	Arctic hare	1	0	Resting	
BR02	2023-12-26 18:13:09	Raven	1	0	Resting	
BR02	2023-12-27 10:49:21	Raven	1	0	Resting	
BR02	2023-12-27 11:22:47	Raven	2	0	Resting	
BR02	2023-12-27 15:08:39	Raven	1	0	Interacting with infrastructure	In back of pickup
BR02	2023-12-28 10:10:18	Raven	2	0	Interacting with infrastructure	Following worker with trash bags
BR02	2023-12-28 14:21:14	Raven	1	0	Interacting with infrastructure	Following worker with trash bags
BR02	2023-12-28 15:51:46	Raven	1	0	Resting	
BR02	2023-12-29 10:00:00	Raven	1	0	Resting	
BR02	2023-12-29 11:19:41	Raven	1	0	Flying	
BR02	2023-12-29 11:46:23	Raven	1	0	Flying	
BR02	2023-12-29 13:00:00	Raven	1	0	Resting	
BR02	2023-12-29 14:57:50	Raven	1	0	Resting	
BR03	2023-09-18 06:29:44	Arctic hare	3	0	Running	
BR03	2023-09-23 19:08:42	Arctic hare	1	0	Running	
BR03	2023-10-07 20:06:55	Arctic hare	1	0	Running	
BR03	2023-10-31 02:22:56	Red fox	1	0	Walking	
BR03	2023-11-14 06:46:07	Arctic hare	1	0	Running	
BR03	2023-11-14 19:00:00	Arctic hare	1	0	Running	
BR03	2023-12-12 16:55:06	Arctic hare	1	0	Running	
BR03	2023-12-24 08:55:18	Arctic hare	1	0	Running	
BR03	2023-12-26 04:57:56	Arctic hare	1	0	Running	
BR03	2023-12-27 23:00:00	Arctic hare	1	0	Resting	
BR03	2023-12-28 17:00:00	Arctic hare	2	0	Resting	
BR03	2023-12-28 19:30:00	Arctic hare	3	0	Resting	
BR03	2023-12-28 22:28:33	Arctic hare	1	0	Resting	
BR03	2023-12-30 02:47:19	Arctic hare	1	0	Running	
BR03	2023-12-30 16:16:23	Arctic hare	1	0	Running	
BR03	2023-12-30 20:51:36	Red fox	1	0	Walking	
BR04	2023-09-17 14:00:00	Arctic hare	1	0	Resting	
BR04	2023-09-17 18:12:10	Arctic hare	1	0	Resting	

APPENDIX D: FACILITIES CAMERA MONITORING DATA, 2023

Camera Location	DateTime	Species	Number of Adults	Number of Juveniles	Behaviour	Comments
BR04	2023-09-18 15:52:26	Unknown Bird	2	0	Walking	goose
BR04	2023-09-18 16:16:58	Arctic hare	1	0	Feeding	
BR04	2023-09-20 16:00:00	Arctic hare	1	0	Feeding	
BR04	2023-09-21 06:30:00	Arctic hare	1	0	Resting	
BR04	2023-09-22 06:30:00	Arctic hare	1	0	Walking	
BR04	2023-09-22 16:30:00	Arctic hare	2	0	Inspecting camera	
BR04	2023-09-24 16:00:00	Arctic hare	1	0	Resting	
BR04	2023-09-25 11:17:34	Unknown Bird	4	0	Resting	goose
BR04	2023-10-12 20:30:00	Arctic hare	1	0	Resting	
BR04	2023-10-25 22:31:22	Arctic hare	1	0	Resting	
BR04	2023-10-31 02:39:09	Arctic hare	1	0	Running	
BR04	2023-11-01 02:30:00	Arctic hare	1	0	Resting	
BR04	2023-11-04 08:00:00	Arctic hare	1	0	Walking	
BR04	2023-11-05 03:00:00	Arctic hare	1	0	Walking	
BR04	2023-11-06 03:00:00	Arctic hare	2	0	Resting	
BR04	2023-11-06 18:31:31	Arctic hare	1	0	Running	
BR04	2023-11-18 21:00:00	Arctic hare	1	0	Walking	
BR04	2023-11-25 20:19:16	Arctic hare	1	0	Running	
BR05	2023-09-20 06:30:00	Rock ptarmigan	2	0	Resting	
BR05	2023-09-21 11:52:49	Rock ptarmigan	7	0	Resting	
BR05	2023-09-26 08:00:00	Rock ptarmigan	1	0	Resting	
BR05	2023-09-26 17:30:00	Rock ptarmigan	2	0	Walking	
BR05	2023-09-27 11:58:50	Rock ptarmigan	4	0	Flying	
BR05	2023-10-06 11:39:40	Rock ptarmigan	1	0	Flying	
BR05	2023-10-12 07:27:49	Arctic hare	0	0	Running	
BR05	2023-10-12 08:24:22	Arctic hare	1	0	Walking	
BR05	2023-10-14 08:00:00	Rock ptarmigan	5	0	Resting	
BR05	2023-10-15 21:49:05	Arctic hare	1	0	Running	
BR05	2023-10-23 13:10:04	Arctic hare	1	0	Resting	
BR05	2023-10-28 18:16:32	Arctic hare	1	0	Resting	
BR05	2023-11-04 08:25:35	Arctic hare	1	0	Resting	
BR05	2023-11-05 00:07:32	Arctic hare	1	0	Running	
BR05	2023-11-24 21:00:55	Red fox	1	0	Walking	
BR05	2023-12-22 21:39:31	Red fox	1	0	Inspecting camera	

APPENDIX E INCIDENTAL WILDLIFE OBSERVATIONS, 2023

Appendix E: Incidental Wildlife Observations, 2023

Date	Location	Location / Distance / Direction Notes	Distance from Camp / WIR (km)	Direction Travelling	Number	Species	Comments (# of calves, etc.)	Observer Name
26/Jan/23	Goose	In-camp		SE	1	Wolverine	Shot 2 Bear Bangers	Thomas
26/Jan/23	Goose	In-camp		SE	1	Wolverine	Shot 2 Bear Bangers	Thomas
28/Jan/23	Goose	In-camp		SE	1	Wolverine	Shot 2 Bear Bangers	Thomas
31/Jan/23	Goose	In-camp		SE	1	Wolf	Fired 1 Bear Banger	Thomas
2/Feb/23	WIR	MLA-Forward Camp	0.35	N	1	Wolverine	Leaving Town	B. Wildmann
2/Feb/23	Goose	Main haul road		E	3	Wolf	Shot 2 Bear Bangers	Thomas
2/Feb/23	MLA		2		1	Muskox	Lone bull	Brett Wildmann
10/Feb/23	WIR	KM 37	1	S	1	Muskox	West side of road	B. Wildmann
10/Feb/23	WIR	KM 23	1	N	1	Moose	East side of road	B. Wildmann
10/Feb/23	WIR	MLA-Forward Camp	1	N	1	Moose	East side of road	Brett Wildmann
10/Feb/23	WIR	MLA-Forward Camp	1	S	1	Muskox	West side of road	Brett Wildmann
11/Feb/23	WIR	WIR FWD Camp-Goose, In-camp		E	20	Willow Ptarmigan		Shane Young
15/Feb/23	WIR	WIR FWD Camp-Goose, Lake 10		S	1	Wolf	Black wolf	Tyler Cunningham
19/Feb/23	WIR	WIR FWD Camp-Goose, Lake 12A		S	5	Wolf		Adam
20/Feb/23	WIR	WIR FWD Camp-Goose, Lake 8		S	500-700	Caribou		
23/Feb/23	WIR	WIR FWD Camp-Goose, Lake 8		W	50	Caribou		
24/Feb/23	Goose		2	S	1	Wolverine	Spotted 1 km from Camp, notified Benji	Bobby O'Brien
24/Feb/23	WIR	WIR FWD Camp-Goose, Lake 2		W	30	Caribou		Brandon
25/Feb/23	Goose	Ledcore Office	1	NW	1	Wolverine	Travelling past Ledcor office	Benji
25/Feb/23	WIR	WIR FWD Camp-Goose, In-camp		W	20	Unspecified Ptarmigan		Dale Theisen
25/Feb/23	Goose		1	E	40	Caribou	Siting called in by field crew	Bobby O'Brien
1/Mar/23	WIR	WIR FWD Camp-Goose. In-camp, 30 ft from Nuna tent.	0.01	E	1	Wolverine		Blair B
2/Mar/23	WIR	WIR FWD Camp-Goose, Lake 8		S	200	Caribou	Running along road joined another 35	Andy
3/Mar/23	Goose	Near Camp	0.5	S	1	Wolf	No actions taken	Thomas
3/Mar/23	Goose		0.5	S/SW	1	Wolf	Healthy	T.Downer
12/Mar/23	Goose	Near Camp	0.6	SE	1	Wolverine	No actions taken	Thomas
12/Mar/23	WIR	WIR FWD Camp-Goose. By the lake near camp.	0.5		2	Wolf		Davant
12/Mar/23	Goose		0.5	S/SW	2	Wolf		T.Downer
15/Mar/23	WIR	WIR FWD Camp-Goose	0.5		300-500	Caribou	Grazing	Thomas
17/Mar/23	Goose	Went from Key trench to Primary Pond	5		1	Wolverine		Byron Larson
25/Mar/23	WIR	KM 89 - KM 102	1	E	500	Caribou	reported by truckers	James B.
25/Mar/23	Goose	On the lake across ice strip moving South East	1	S/SE	7	Wolf		
26/Mar/23	Goose	Goose Lake	0.75	S	9	Wolf	Travelling away from Camp on Goose Lake	Bobby O'Brien
28/Mar/23	Goose		2	S	1	Caribou	Lone	B. O'Brien
30/Mar/23	WIR	Km 84		N	1	Wolf		Tyler Theriabelt
30/Mar/23	WIR	KM 83		N	5	Caribou	x3 baby	Tyler Theriabelt
30/Mar/23	Goose		1.5	E	30	Caribou	Herd	Kathy
31/Mar/23	WIR	Km 71		N	3	Wolf	Closing in on workers working	Tyler Theriabelt
2/Apr/23	WIR	KM 63		S	lots	Caribou		
2/Apr/23	WIR	KM 71		N	300+	Caribou		(signature not legible)
3/Apr/23	WIR	KM 135		N	3	Wolf		
3/Apr/23	WIR	KM 94		S	lots	Caribou		
4/Apr/23	WIR	KM 33, near Bathurst Inlet			1	Cross Fox	Crossed road and continued down slope	Mitch Fennell
4/Apr/23	WIR	KM 117		S	200	Caribou		Korey
4/Apr/23	WIR	KM 126		S	300	Caribou		Tyler Theriabelt
4/Apr/23	WIR	KM 83		N	100	Caribou		Tyler Theriabelt
5/Apr/23	Goose	In-camp, behind warehouse		NW	1	Arctic Fox		

Appendix E: Incidental Wildlife Observations, 2023

Date	Location	Location / Distance / Direction Notes	Distance from Camp / WIR (km)	Direction Travelling	Number	Species	Comments (# of calves, etc.)	Observer Name
5/Apr/23	WIR	KM 112		S	200	Caribou		
5/Apr/23	WIR	KM 115		N	200	Caribou		Korey
5/Apr/23	WIR	KM 75		N	50	Caribou		Korey
5/Apr/23	WIR	KM 92		N	80	Caribou		
5/Apr/23	WIR	KM 98		N	40	Caribou		
6/Apr/23	WIR	KM 112		N	13	Caribou		Korey
6/Apr/23	WIR	KM 115		N	50	Caribou		Korey
6/Apr/23	WIR	KM 129		S	75	Caribou		Korey
6/Apr/23	WIR	KM 133		S	100	Caribou		Korey
6/Apr/23	WIR	KM 134		S	1000	Caribou		Korey
6/Apr/23	WIR	KM 136		S	2000	Caribou		Korey
6/Apr/23	WIR	KM81		S	100	Caribou		Korey
6/Apr/23	WIR	KM 91		N	100	Caribou		Korey
6/Apr/23	WIR	KM 94		S	100	Caribou		Korey
6/Apr/23	WIR	KM 96		S	150	Caribou		Korey
6/Apr/23	WIR	KM 98			1	Wolverine		Mitch Fennell
7/Apr/23	WIR	KM 150			1	Rough Legged Hawk		Mitch Fennell
7/Apr/23	WIR	KM 141		S	300	Caribou		Korey
7/Apr/23	WIR	KM 146		S	>2000	Caribou		Korey
7/Apr/23	WIR	KM 150		S	>3000	Caribou		Korey
7/Apr/23	WIR	KM 76		S	20	Caribou		Korey
7/Apr/23	WIR	KM 99		S	60	Caribou		Korey
8/Apr/23	WIR	KM 76		S	200+	Caribou		Tyler Theriabelt
8/Apr/23	Goose	Near Primary Pond	1.5	N	1	Unspecified Fox		Lorenzo
9/Apr/23	Goose	2 km from Ledcor Field office	1.5	N	150	Caribou		Bryon Larson
9/Apr/23	WIR	KM 64		S	50	Caribou		Tyler Theriabelt
10/Apr/23	WIR	KM 119			2	Wolf	Feeding on a caribou	Mitch Fennell
10/Apr/23	WIR	KM 132			1	Rough Legged Hawk		Mitch Fennell
10/Apr/23	WIR	KM 128		N	couple hundred	Caribou		
10/Apr/23	WIR	KM 65		N	50	Caribou		Tyler Theriabelt
10/Apr/23	WIR	KM67		S	20	Caribou		Tyler Theriabelt
11/Apr/23	WIR	KM 101			1	Wolf	walking down the middle of the road	Mitch Fennell
11/Apr/23	WIR	KM 159			2	Wolf	Hunting/stalking the large herd	Mitch Fennell
11/Apr/23	WIR	KM 153		S	75	Caribou		Korey
11/Apr/23	WIR	KM 155		S	40	Caribou		Korey
11/Apr/23	WIR	KM 158		S	>500	Caribou		Korey
11/Apr/23	WIR	KM 162		N	thousands	Caribou		
11/Apr/23	WIR	KM64		S	30	Caribou		Tyler Theriabelt
11/Apr/23	WIR	KM 74		N	2	Caribou		Tyler Theriabelt
11/Apr/23	WIR	KM 106			1	Wolverine		Mitch Fennell
12/Apr/23	WIR	KM 110		W	1	Unspecified Fox		Korey
12/Apr/23	WIR	KM 117		S	>2000	Caribou		Korey
12/Apr/23	WIR	KM 155		S	>8000	Caribou		Korey
12/Apr/23	WIR	KM 162		N	thousands	Caribou		
12/Apr/23	WIR	KM81		N	20	Caribou		Tyler Theriabelt
12/Apr/23	WIR	KM 93		S	30	Caribou		Tyler Theriabelt
12/Apr/23	WIR				1	Wolf	On an older kill	Mitch Fennell

Appendix E: Incidental Wildlife Observations, 2023

Date	Location	Location / Distance / Direction Notes	Distance from Camp / WIR (km)	Direction Travelling	Number	Species	Comments (# of calves, etc.)	Observer Name
13/Apr/23	WIR	KM 107			3	Wolf	On a recent kill	Mitch Fennell
13/Apr/23	WIR	KM 17, on Bathurst Inlet			1	Ringed Seal	Resting on Ice	Mitch Fennell
13/Apr/23	WIR	KM 101		N	40	Caribou		Korey
13/Apr/23	WIR	KM 162		NE	>1000	Caribou		Korey
13/Apr/23	WIR	KM 50		N	50	Caribou		
13/Apr/23	WIR	KM 94		N	>300	Caribou		Korey
13/Apr/23	Goose		2	S	est. 1000	Caribou	South Migration	T.Downer
16/Apr/23	Goose	Esker Pile	1.5		1	Wolf		Justin
16/Apr/23	Goose		2	S	200-300	Caribou	South Migration	T.Downer
17/Apr/23	Goose	On the lake	2		1	Caribou		Jon Schellenberg
17/Apr/23	Goose		2	S	750	Caribou	South Migration	T.Downer
18/Apr/23	WIR	KM 78			2	Wolf	Potentially herd 2 more	Makayla Swain
18/Apr/23	Goose		1.5	W	1	Unspecified Fox	Broken Leg? Hopping	Justin
18/Apr/23	Goose		2	S	200-300	Caribou	South Migration	T.Downer
19/Apr/23	WIR	Bathurst Inlet			1	Ringed Seal		Makayla Swain
19/Apr/23	Goose		2	S	50	Caribou	South Migration	T.Downer
20/Apr/23	WIR	MLA-Forward Camp, Bathurst Lake	2		1	Grizzly Bear		Makayla Swain
20/Apr/23	WIR				1	Rough Legged Hawk		Makayla Swain
20/Apr/23	Goose		5	S	60	Caribou	South Migration	Mark Burry
21/Apr/23	WIR	KM 12			1	Wolf		Dan Fraser
21/Apr/23	WIR	KM 78			3	Wolf		Makayla Swain
22/Apr/23	WIR	KM 20, Bathurst Inlet			1	Ringed Seal		Makayla Swain
24/Apr/23	WIR	Bathurst Inlet			1	Ringed Seal		Makayla Swain
30/Apr/23	Goose		1.5	E	1	Unspecified Fox	Same fox	Justin
4/May/23	Goose	Diversion Berm	1	S	1	Unspecified Fox		Bobby O'Brien
5/May/23	Goose	Echo Pit	1.5	S	1	Unspecified Fox		Bobby O'Brien
9/May/23	Goose	By burn cage		S	1	Wolf		Adrian P
9/May/23	Goose	In-camp		E	1	Wolf	Travelled through camp	Bobby O'Brien
10/May/23	Goose	In-camp	1.5	E	1	Wolf	Travelled through camp, all personnel notified	Brandon P
14/May/23	Goose	Between Major and Airstrip, near Incinerator		SW	1	Wolf		Josh
15/May/23	Goose	800 m from Echo towards Camp	1	S	16	Caribou		Kathy
15/May/23	Goose		1.5	E	1	Unspecified Fox	Possible den @ Echo Pit	Kathy
18/May/23	Goose	South of Camp		SE	50	Caribou		Cathy
19/May/23	Goose	Heading towards Echo Pit	1	E	20	Caribou		Kathy
19/May/23	MLA		2	W	1	Grizzly Bear	Walking	Colin
20/May/23	MLA	Fuel farm berm	>1	E	1	Grizzly Bear	Trying to come over fuel farm berm	Colin
21/May/23	Goose	Llama road	1.5	S	16	Caribou	Small herd hanging out	Kathy
23/May/23	Goose	Llama	1	S	12	Caribou	Small herd	Kathy
25/May/23	Goose		0.1	SSE	1	Wolf		Thomas
27/May/23	MLA	North airstrip sunway	2	W	6	Caribou		Johnny
28/May/23	MLA	North of airstrip	5 - 10	NNW	10	Caribou	3 am, they are sitting	Johnny
28/May/23	Goose		0.5	S	4	Caribou		Kokiak
30/May/23	MLA	Camp	1	W	1	Grizzly Bear	Used bear banger and headed west	Johnny
31/May/23	MLA		2		3	Moose		Bob
31/May/23	MLA				13	Caribou		Bob
1/Jun/23	MLA		4	S	1	Caribou	Just hanging out	Dave
3/Jun/23	Goose		5	S	2	Caribou		Kokiak

Appendix E: Incidental Wildlife Observations, 2023

Date	Location	Location / Distance / Direction Notes	Distance from Camp / WIR (km)	Direction Travelling	Number	Species	Comments (# of calves, etc.)	Observer Name
8/Jun/23	Goose	Main camp		E	1	Caribou		Thomas
8/Jun/23	Goose		0.1	E	1	Wolf		Darcy
9/Jun/23	Goose	Camp Pad		N	1	Wolf		Chad
16/Jul/23	Goose		1.5	S	5	Unspecified Fox	Adult with 4 pups	J. Osullivan
18/Jul/23	Goose		2.5	SE	1	Caribou	Adult	J. Osullivan
19/Jul/23	Goose		2		1	Caribou	Adult	J.Osullivan
20/Jul/23	Goose	Hanging out at OB dump	2		1	Caribou		J. Osullivan
22/Jul/23	Goose		2	SE	1	Caribou	Adult	J.Osullivan
23/Jul/23	Goose		2	S	1	Unspecified Fox	Eating an Arctic Hare	Ryan Weagle
10/Aug/23	Goose		0.5	S	100	Canada Goose	Feeding and flying. Multiple large groups	Christian Standring
16/Aug/23	Goose		1.5	E	1	Muskox	Slowly walking east eating vegetation	Christian Standring
3/Sep/23	Goose	Crossing road southeast of portal shop			6	Caribou	One calf	Rob Davidson
4/Sep/23	Goose	In-camp			8	Caribou	All around camp	Rob Davidson
10/Sep/23	Goose	Goose Incinerator	0.75	SE	5	Caribou		Dexter
11/Sep/23	Goose	Goose Incinerator	1.5	N	4	Caribou	1 calf	Dexter
11/Sep/23	Goose	In-camp			6	Caribou	All around camp. Bulls	Jorgan
13/Sep/23	Goose	Near drill cores	0.25	W	20	Rock Ptarmigan	Eating gravel	Christian Standring
13/Sep/23	Goose				2	Caribou	bulls	D. Kanoyok
15/Sep/23	Goose	Goose Incinerator	0.5	S	2	Wolf		Dexter
17/Sep/23	Goose	Between goose neck and road	0.1		11	Canada Goose	Feeding	Mitch Fennell
17/Sep/23	Goose	Umurlet Lake			1	Caribou		Christian Standring
18/Sep/23	Goose	Goose Incinerator	1.75	N	3	Caribou		Dexter
18/Sep/23	Goose	Goose Incinerator	1.75		1	Muskox		Dexter
19/Sep/23	Goose	New Camp, In site services construction area near sea cans			1	Weasel		Mitch Fennell
19/Sep/23	WIR	WIR FWD Camp-Goose	0.7	W	3	Caribou	Feeding . 1 male, 2 unknown	Christian Standring
23/Sep/23	Goose	Goose Lower Camp, Goose Lake	0.1	SE	1	Unspecified Raptor	Small raptor flying Southbound along shore of Goose Lake	Christian Standring
26/Sep/23	Goose	Echo Pit	0.4	SW	4	Grizzly Bear	Mother with three cubs. Deterred with bear banger by Dexter.	Christian Standring
26/Sep/23	Goose	Goose Lower Camp	0.1	S	75	Canada Goose	Flock flying south	Christian Standring
27/Sep/23	Goose	By ladies dry			1	Weasel		Rob Davidson
29/Sep/23	Goose	Goose Lower Camp	0.3	W	1	Caribou	Adult laying on Tundra	Christian Standring
29/Sep/23	Goose	Northwest of core yard			1	Caribou	Bull	Rob Davidson
30/Sep/23	Goose	Goose Lower Camp	0.1	W	5	Tundra Swan	Five swans flying south. After review of range maps for swans, these are most likely Tundra Swans	Christian Standring
1/Oct/23	Goose	Goose Lower Camp			3	Canada Goose		Wayne Ferguson
2/Oct/23	Goose	Goose Lower Camp			1	Ermine		Wayne Ferguson
3/Oct/23	Goose	Goose Lower Camp	0.2	N	1	Caribou	Bull	Christian Standring
3/Oct/23	Goose	Goose Lower Camp			1	Weasel		Kait Omail
7/Oct/23	Goose	Goose Lower Camp			1	Weasel	lemming in its mouth	Rob Davidson
11/Oct/23	Goose	New Camp, around truck shop area	0	W	16	Rock Ptarmigan		Jacob Zehinder
29/Oct/23	Goose	Goose Incinerator	0.5	S	1	Unspecified Fox		Dexter
3/Nov/23	Goose	Plant Site	0.2	N	1	Red Fox	Walking north beside single lane on tundra. Very healthy looking winter coat.	Christian Standring
16/Nov/23	Goose	Airstrip		E	1	Falcon		Rob Davidson
19/Nov/23	Goose	Airstrip	0.01	SE	2	Caribou		Rob Davidson
21/Nov/23	Goose	Goose Lower Camp, Infront of cabin 43			1	Weasel		Paul
21/Nov/23	Goose	Goose Lower Camp, warehouse heading to strip		W	1	Unspecified Fox		Rob Davidson
9/Dec/23	Goose		1	W	1	Unspecified Fox		Todd E

APPENDIX F MARINE MAMMAL AND BIRD OBSERVATIONS DURING SHIPPING, 2023

APPENDIX F: MARINE MAMMAL AND BIRD OBSERVATIONS DURING SHIPPING, 2023

Date	Time	Vessel Name	Observer Name	Latitude	Longitude	Species Group (Bird or Mammal)	Species	Number Observed	Behaviour	Initial Distance from Vessel (m)	Mitigation Action?	Ship Strike?	Notes
24/Sep/23	8:00	Rossi A Desgagnes	L.F. Schnark	66.63	-107.65333	Bird	Canada Geese	30	V formation	overhead	NR	NR	V formation, flying south
24/Sep/23	8:00	Rossi A Desgagnes	L.F. Schnark	66.63	-107.65333	Bird	Canada Geese	40	Swimming	5	NR	NR	Floating/resting in bay
20/Sep/23	18:00	Rossi A Desgagnes	L.F. Schnark	70.21667	-98.93	Bird	Gull	2	Fly/soar	<1000	NR	NR	
26/Sep/23	15:00	Rossi A Desgagnes	L.F. Schnark	72.53	-95.936667	Bird	Gull	3	Soaring in wind	10	NR	NR	Seem to be playing (?) in wind and waves
25/Sep/23	8:00	Gaia Desgagnes	Simon Bolduc	64.90833	-59.098333	Bird	Iceland Gull	1	Following ship	50	NR	NR	
27/Sep/23	8:00	Rossi A Desgagnes	L.F. Schnark	74.35667	-90.471667	Bird	Iceland Gull	4	Circling	10	NR	NR	Circling ship
27/Sep/23	15:00	Rossi A Desgagnes	L.F. Schnark	74.11	-85.195	Bird	Iceland Gull	5	Circling/soaring	overhead, 5	NR	NR	Soaring and circling
27/Sep/23	18:00	Rossi A Desgagnes	L.F. Schnark	NR	NR	Bird	Iceland Gull	8	soaring/circling	near/far	NR	NR	Circling vessel in bergy waters
21/Sep/23	15:00	Rossi A Desgagnes	L.F. Schnark	68.76667	-107.95667	Bird	Kittwake	2	Flying/soaring	1	NR	NR	Too far away to positive ID
16/Sep/23	10:00	Pacific Excellence	Oleg Levytsky	66.85167	-107.81667	Bird	Northern Fulmar	1	Other	50	NR	NR	Photo 1, looks like Northern Fulmar
24/Sep/23	8:00	Gaia Desgagnes	Simon Bolduc	69.89167	-64.135	Bird	Northern Fulmar	4	Following ship	100	NR	NR	
22/Sep/23	8:00	Rossi A Desgagnes	L.F. Schnark	66.63333	-107.655	Bird	Raven	1	Circling/landing	2	NR	NR	Circle and land on vessel
22/Sep/23	13:00	Rossi A Desgagnes	L.F. Schnark	66.63333	-107.655	Bird	Raven	1	Landing/circling	Close up	NR	NR	Friendly, landing on vessel
24/Sep/23	8:00	Rossi A Desgagnes	L.F. Schnark	66.63	-107.65333	Bird	Raven	1	Circling	overhead	NR	NR	Circling vessel
19/Sep/23	16:00	Rossi A Desgagnes	L.F. Schnark	73.33667	-81.538333	Bird	Unknown Bird	3	Circling	5	NR	NR	White with black tip wing
19/Sep/23	16:00	Rossi A Desgagnes	L.F. Schnark	73.33667	-81.538333	Bird	Unknown Bird	1	Straight line	5	NR	NR	White, large wing span
20/Sep/23	15:56	Rossi A Desgagnes	L.F. Schnark	70.70333	-98.185	Bird	Unknown Bird	1	Fly		NR	NR	
27/Aug/24	17:40	Nunalik	Antione Cabenuve Lassonbe	69.06	-101.37833	Bird	Canada Geese	5	Flying low altitude information	20	NR	NR	
27/Aug/24	20:00	Nunalik	Anures Acosta	68.775	-104.665	Bird	Cackling Geese	7	NR	15	NR	NR	
27/Aug/24	20:42	Nunalik	Jeremie Collard	68.715	-102.74333	Bird	Canada Geese	2	Rafting	10	NR	NR	
31/Aug/24	20:00	Qamutik	J-F Belamsen	66.68333	-103.81333	Bird	Common Loon	15	Flying	200	NR	NR	
31/Aug/24	20:00	Qamutik	J-F Belamsen	66.68333	-103.81333	Bird	Long-tail Duck	1	Rafting	300	NR	NR	
29/Aug/24	12:45	Qamutik	Henry Ouellon	74.24667	-93.521667	Bird	Northern Fulmar	2	Flight	30	NR	NR	
29/Aug/24	12:45	Qamutik	Henry Ouellon	74.24667	-93.521667	Bird	Pomarine Jaeger	1	Flight	25	NR	NR	
29/Aug/24	20:00	Qamutik	J-F Belamsen	73.99833	-79.618333	Bird	Northern Fulmar	2	Rafting	200	NR	NR	
30/Aug/24	9:00	Qamutik	J-F Belamsen	74.37167	-90.433333	Bird	Black Guillemot	3	Rafting	300	NR	NR	
30/Aug/24	9:00	Qamutik	J-F Belamsen	74.37167	-90.433333	Bird	Northern Fulmar	1	Flying	100	NR	NR	
27/Aug/23	13:40	Nunalik	Antione	69.06	-101.38167	Bird	Canada Geese	5	Flying	NR	No	No	
29/Aug/23	12:36	Qamutik	Henry Ouellon	74.26667	-93.401667	Bird	Northern Fulmar	1	Flying	NR	NR	No	
30/Aug/23	17:00	Qamutik	Charles Guesneau	73.66	-95.926667	Bird	Herring Gull	4	Flying	NR	No	NR	
30/Aug/23	8:25	Qamutik	J-F Bilamsen	74.36333	-89.89	Bird	Northern Fulmar	1	Flying	NR	No	No	
30/Aug/23	22:30	Qamutik	J-F Bilamsen	72.48	-96.035	Bird	Northern Fulmar	5	Resting on ocean surface	NR	No	No	
14/Sep/23	10:30	Pacific Excellence	Oleg Levytsky	68.25833	-108.96167	Mammal	Fur Seal	1	Other	300	No	NR	Far, swimming, head visible only
4/Sep/23	20:20	Nunalik	Patricia Palrat	66.665	-107.64833	Mammal	Seal	1	Happy, swimming	300	Unknown	NR	Seen till 21:00
31/Aug/23	13:10	Nunalik	Patricia Palit	66.66683	-107.65667	Mammal	Seal	1	Travel	200	Unknown	NR	
31/Aug/23	21:05	Qamutik	J-F Belamsen	68.73333	-104.375	Mammal	Hooded seal	1	Travel	200	NR	NR	
31/Aug/23	21:20	Qamutik	J-F Belamsen	68.78333	-104.715	Mammal	Hooded seal	1	Travel	200	NR	NR	
29/Aug/23	12:21	Qamutik	Henry Ouellon	74.27333	-93.168333	Mammal	Harbour Seal	1	Travel	50	No	NR	From Port side
29/Aug/23	12:32	Qamutik	Henry Ouellon	74.27167	-93.278333	Mammal	Bearded seal	2	Travel	60	No	NR	From Starboard side
10/Sep/23	7:20	Gaia Desgagnes	Tristan Demers-Leclair	70.08333	-65.55	Bird	Herring Gull	6	Flying	NR	No	No	Following the vessel
10/Sep/23	14:06	Gaia Desgagnes	M.A. Auger	71.49167	-68.103333	Mammal	Bearded Seal	1	Swimming	NR	No	No	Swimming around
10/Sep/23	15:40	Gaia Desgagnes	M.A. Auger	71.69667	-68.885	Bird	Razorbill	16	Feeding	NR	No	No	Feeding/swimming
11/Sep/23	13:15	Gaia Desgagnes	M.A. Auger	73.88	-81.72	Bird	Razorbill	14	Feeding	NR	No	No	Feeding/swimming
11/Sep/23	14:55	Gaia Desgagnes	M.A. Auger	73.91	-82.861667	Bird	Herring Gull	2	Flying	NR	No	No	Small black marks around the eyes
12/Sep/23	9:21	Gaia Desgagnes	Simon Bolduc	72.01	-93.578333	Mammal	Bowhead Whale	1	Blowing	NR	No	No	
12/Sep/23	11:50	Gaia Desgagnes	M.A. Auger	71.97833	-95.005	Mammal	Ringed Seal	5	Swimming	NR	No	No	
12/Sep/23	12:06	Gaia Desgagnes	F. Girard	71.97	-95.115	Mammal	Harp Seal	20	Swimming	NR	No	No	
12/Sep/23	NR	Gaia Desgagnes	M.A. Auger	71.60333	-96.628333	Mammal	Hooded Seal	18	Diving	NR	No	No	Swimming/diving around
14/Sep/23	10:00	Gaia Desgagnes	F. Perreault	66.63167	-107.65833	Bird	Common Raven	2	Other	NR	No	No	Resting on ship's structures; 60-75 cm long
15/Sep/23	15:10	Pacific Excellence	Duchynnikov Mykyta	66.85028	-107.8025	Mammal	Fur Seal	1	Swimming, Diving	NR	No	No	Swimming, dives
16/Sep/23	15:55	Pacific Excellence	Oleg Levytsky	66.85333	-107.81667	Mammal	Fur Seal	1	Swimming, Diving	NR	No	No	Swimming, dives
19/Sep/23	10:30	Rossi A Desgagnes	LF Schnark	73.96333	-86.841667	Bird	White Tailed Ptarmigan	1	Resting on ship	NR	No	No	Sitting on hose reel for approx. 1 hr, clean and bright, appeared to be in good health.
25/Sep/23	9:00	Rossi A Desgagnes	J.S. Gregoire	68.66833	-103.53	Bird	Unknown Blackbird	12	Flying	NR	No	No	Small black feathers

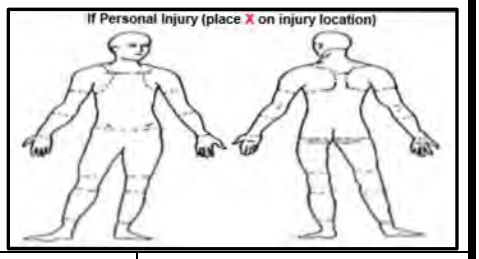
APPENDIX G WILDLIFE INCIDENT REPORTS, 2023

Incident Report – Short Form

The Incident Report – Short Form is for all safety, environmental, property damage, and high risk near misses at the Back River Project. The form may be used for other incidents as deemed appropriate.

Incident #: [redacted]		Report Completed By: [redacted]				Date: Jan 12, 2023
Incident Category	☐ Injury/Illness	☐ Near Miss	☐ Property Damage			
	☐ Spill	☐ Environmental Incident	☒ Other: Wildlife interaction			

Short Description: Wolverine euthanized due to continually entering camp area and poses danger to personnel.



Names of Persons Involved: [redacted]	Time: 1230pm	Date: Jan 12, 2022
Job: Incinerator Operator	Location: Goose Lake Incinerator (65.542837, -106.425919)	
Employer: Sabina	Supervisor: [redacted]	
Name of Witnesses (if any): [redacted]		

Incident Description: *(Who, What, Where, When & How)*

On January 12, 2023 it was reported that the incinerator was experiencing issues with the generator that required maintenance. At approx. 1200pm the incinerator was restored for burning of camp waste.

At approx. 1220pm on January 12, 2023 the incinerator operator [redacted] had gathered camp waste, put within the incinerator and proceeded to the incinerator shack to retrieve his mask to initiate a burn and stirp up the ash within. When the incinerator operator came out of the shack, he observed a wolverine enter the incinerator building. Incinerator immediately closed the overhead door to ensure his safety and called a Code 1 and blew the airhorn to notify possible other personnel in the area. Health and Safety acknowledged the Code 1 on the radio.

At approx. 1227pm [redacted] responded to the safety office to retrieve the firearm (shotgun), and approx. one minute later the [redacted] responded. At approx. 1230 the south overhead door was opened (points unobstructed towards the open tundra), but the wolverine would not leave. Noise was introduced to persuade the wolverine to exit in incinerator building, which was accomplished by knocking on the north door. The wolverine finally exited the south overhead door and proceeded left around the incinerator and proceeded at the personnel knocking on the north door. This startled the person at the north door and the wolverine proceeded south towards [redacted] and then veered towards the tundra at which [redacted] discharged the firearm towards the tundra and killing the wolverine.

All Code 1 protocols and wildlife rules of engagement were followed. Due to the fact that the site was in code 1 status (Jan 10th) as the wolverine was spotted within the camp footprint near a tent. The response team investigated but was not able to locate and deter.

As per the request of the Government of Nunavut, the skull and a 1in x 1in piece of fur has been preserved in a cooler to be sent to the Government of Nunavut for their review. The carcass of the

Incident Report – Long Form

The Incident Report – Long Form is a continuation of the Short Form and is required for all LTI's, reportable incident, significant property damage, and other high risk incidents at the Back River Project. The form may be used for other incidents as deemed appropriate.

Wolverine has been incinerated to prevent any attractants, and hide is being sent to Kugluktuk to the Brighter Futures Program to teach the community children how to flesh and prepare the skin.

Related to Critical Risks:

Was a JHA or FLRA Completed? (Y/N)

Sketch/Photos

Figure 2: Incinerator North Overhead Door view.

Figure 1: Inside incinerator (4hour build up due to maintenance issue)

What corrective actions have been implemented to prevent further loss?

- Due to the 4hr of downtime on the incinerator some build up is observed but burning has commenced and is diminished. Prior to the morning downtime on January 12th, there was no build up of waste within the incinerator.
- We will continue to be diligent with our waste collection and incinerating. Waste to be burnt as soon as possible upon collection. Doors to building will continue to be locked when away from the incinerator

Incident Report Completed By: [redacted]

Incident Report – Long Form

The Incident Report – Long Form is a continuation of the Short Form and is required for all LTI's, reportable incident, significant property damage, and other high risk incidents at the Back River Project. The form may be used for other incidents as deemed appropriate.

Phone #: [redacted]	Title: Site Services Superintendent	Date: Jan12, 2023

**Attached Additional Information as Appropriate.*

Investigation Start Date:		Investigation Completion Date:
Investigation Team: Name:	Investigation #: Organization:	Role:

Incident Type/Category:
- ☐ Injury
- ☐ Illness
- ☐ Property Damage
- ☐ Spill
- ☐ Environmental Incident
- ☐ Loss of Process
- ☐ Non-Compliance
- ☐ Near Miss
- ☐ Other:

Damage/Loss Estimate $:

Injury Severity:
- ☐ Multiple Casualty
- ☐ Lost Time
- ☐ Restricted Duty
- ☐ Medical Treatment
- ☐ First Aid
- ☐ Reportable Spill
- ☐ Other:

Nature of Injury:
- ☐ Contact with
- ☐ Caught on/in
- ☐ Caught between
- ☐ Environmental Condition
- ☐ Energy Release
- ☐ Struck by
- ☐ Struck on
- ☐ Other:

Comments: Mechanics time

Contributing Factors (Immediate Causes): C*ircle Or Highlight All That Apply*

Inadequate Hazard Assessment	1	Inadequate methods or standards	13	Improper position for task	25
Inadequate Safety Device	2	Inadequate loading	14	Defective tools or equipment	26
Inadequate tools or equipment	3	Inadequate barriers or guarding	15	Operating without authority	27
Inadequate ventilation	4	Inadequate attention to task	16	Operating at Unsafe Speed	28
Inadequate lighting	5	Inadequate knowledge	17	Using defective equipment	29
Inadequate housekeeping	6	Inadequate compliance	18	Disabling safety devices	30
Inadequate PPE	7	Inadequate manual handling	19	Improper operation	31
Inadequate Pre-Use Inspection	8	Inadequate work scope	20	Failure to use effective PPE	32
Inadequate Communication	9	Inadequate use of equipment	21	Thermal Exposure (Hot/Cold)	33
Inadequate Isolation (LO/TO)	10	Improper workplace conduct	22		
Inadequate maintenance	11	Improper use of PPE	23		
Inadequate effort to make safe	12	Improper use of equipment	24		

Incident Report – Long Form

The Incident Report – Long Form is a continuation of the Short Form and is required for all LTI's, reportable incident, significant property damage, and other high risk incidents at the Back River Project. The form may be used for other incidents as deemed appropriate.

Organizational Factors (Root Causes): *Circle Or Highlight All That Apply*

Inadequate Engineering/Design	A	Inadequate Compliance Enforcement	G	Normalization of Deviance	M
Inadequate Supervision	B	Inadequate Inspection Program	H	Incompatible Goals	N
Inadequate Maintenance	C	Inadequate Maintenance Management	I	Inadequate Management of Change Process	O
Inadequate Training	D	Inadequate Risk Management	J	Inadequate Communication	P
Inadequate Work Standards	E	Inadequate Contractor Management	K		
Inadequate Hazard Identification	F	Inadequate Fatigue Management	L		

Key Organizational/Root Cause Failures Identified:

Corrective Actions Taken to Address Contributing Factors (Immediate Causes 1-33):

Cause Code:	Description of Actions Taken:	Implemented by:	Date completed:

Preventive Actions Pending to Address Organizational Factors (Root Causes A – P):

Cause Code:	Description of Actions to be Taken:	Implemented by:	Date completed:

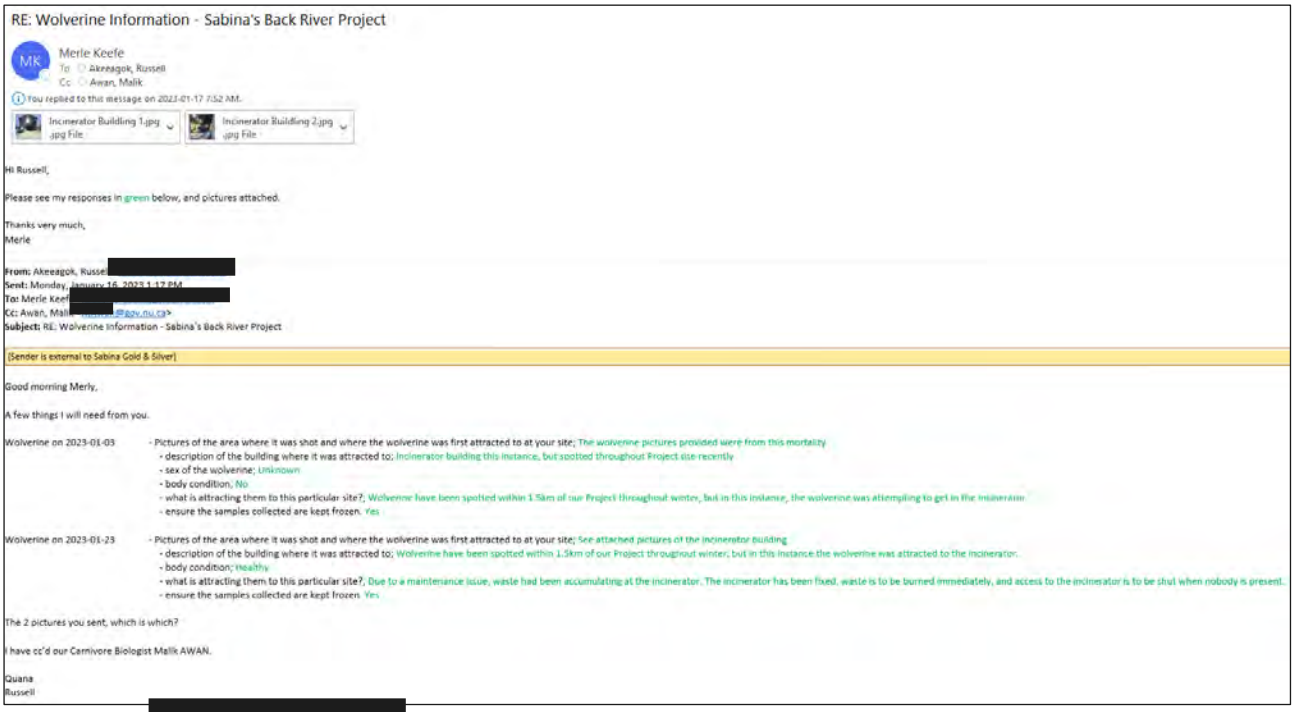
Follow Up Actions Taken or Required:

Cause Code:	Description of Follow-up Action:	To be completed by:	Date completed:

Final Report Reviewed by:

Name:	Role:	Signature:	Date:

APPENDIX G-2 WOLVERINE INFORMATION – SABINA'S BACK RIVER PROJECT, JANUARY 3 AND 12, 2023 (EMAIL)



RE: Wolverine Information - Sabina's Back River Project

Merle Keefe
To: Akeeagok, Russell
Cc: Awan, Malik

You replied to this message on 2023-01-17 7:52 AM.

Incinerator Building 1.jpg .jpg File
Incinerator Building 2.jpg .jpg File

Hi Russell,

Please see my responses in green below, and pictures attached.

Thanks very much,
Merle

From: Akeeagok, Russe[redacted]
Sent: Monday, January 16, 2023 1:17 PM
To: Merle Keef[redacted]
Cc: Awan, Malik [redacted]@gov.nu.ca>
Subject: RE: Wolverine Information - Sabina's Back River Project

[Sender is external to Sabina Gold & Silver]

Good morning Merly,

A few things I will need from you.

Wolverine on 2023-01-03
- Pictures of the area where it was shot and where the wolverine was first attracted to at your site; The wolverine pictures provided were from this mortality
- description of the building where it was attracted to; Incinerator building this instance, but spotted throughout Project site recently
- sex of the wolverine; Unknown
- body condition; No
- what is attracting them to this particular site?; Wolverine have been spotted within 1.5km of our Project throughout winter, but in this instance, the wolverine was attempting to get in the incinerator.
- ensure the samples collected are kept frozen. Yes

Wolverine on 2023-01-23
- Pictures of the area where it was shot and where the wolverine was first attracted to at your site; See attached pictures of the incinerator building
- description of the building where it was attracted to; Wolverine have been spotted within 1.5km of our Project throughout winter, but in this instance the wolverine was attracted to the incinerator.
- body condition; Healthy
- what is attracting them to this particular site?; Due to a maintenance issue, waste had been accumulating at the incinerator. The incinerator has been fixed, waste is to be burned immediately, and access to the incinerator is to be shut when nobody is present.
- ensure the samples collected are kept frozen. Yes

The 2 pictures you sent, which is which?

I have cc'd our Carnivore Biologist Malik AWAN.

Quana
Russell

From: Merle Keefe <mkeefe@sabinagoldsilver.com>
Sent: January 16, 202[redacted]
To: Akeeagok, Russell <RAkeeagok@GOV.NU.CA>
Subject: Wolverine Information - Sabina's Back River Project

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Russel,

Here is the information you requested for both wolverine dispatches at Sabina's Back River Project (Goose Lake):

January 3, 2023
Approx. Location: 65.542837, -106.425919
Take Down Tim[redacted]
Take Down By: Kirk Kapakatoak (PAL #: 13383847.0001)
As per the request of the Government of Nunavut, the skull and a 1in x 1in piece of fur has been preserved in a cooler to be sent to the Government of Nunavut

January 12, 2023
Approx. Location: 65.542837, -106.425919
Take Down Tim[redacted]
Take Down By: Chad McCallum (PAL #: 12404886.0003)
As per the request of the Government of Nunavut, the skull and a 1in x 1in piece of fur has been preserved in a cooler to be sent to the Government of Nunavut
Sex of wolverine: Female

Thanks very much,
Merle

APPENDIX G-3 INCIDENTAL WATERFOWL MORTALITY, JULY 31, 2023 (EMAIL)

Incidental Waterfowl Mortality

Christian Standring
To [redacted]@ec.gc.ca
Cc Merle Keefe; Thomas Bolt

Image.jpeg .jpeg File | Image.jpeg .jpeg File | Image.jpeg .jpeg File | Image.jpeg .jpeg File | Image.jpeg .jpeg File | Image.jpeg .jpeg File

Good Afternoon,

I want to advise that during fisheries work completed on Umwelt Lake on the morning of July 31 2023, a juvenile duck became entangled in nets and did not survive.

Photos of this bird have been reviewed by biologists at WSP and the best estimation of species is long tailed duck. See photos attached.

The fisheries work is being completed under DFO authorization No: 12-HCAA-CA7-00007

This specimen will be incinerated, unless otherwise directed.

We have notified the Government of Nunavut, Fisheries and Oceans Canada, and the Kitikmeot Inuit Association of this incidental take as well.

If you have any questions or concerns, please don't hesitate to reach out.

Thank you and all the best,

Christian Standring
Supervisor, Environment
C [redacted]
T

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Incidental Waterfowl Mortality

Christian Standring
To jroe[redacted]
Cc Thomas Bolt; Merle Keefe

Image.jpeg .jpeg File | Image.jpeg .jpeg File | Image.jpeg .jpeg File | Image.jpeg .jpeg File | Image.jpeg .jpeg File | Image.jpeg .jpeg File

Good Afternoon John,

I want to advise you that during fisheries work completed on Umwelt Lake on the morning of July 31 2023, a juvenile duck became entangled in nets and did not survive.

Photos of this bird have been reviewed by biologists at WSP and the best estimation of species is long tailed duck. See photos attached.

The fisheries work is being completed under DFO authorization No: 12-HCAA-CA7-00007

The specimen will be incinerated once reporting is complete with all relevant agencies.

If you have any questions or concerns, please don't hesitate to reach out.

Thank you and all the best,

Christian Standring
Supervisor, Environment
C [redacted]
T

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APPENDIX G-4 DECEASED ARCTIC HARE, AUGUST 12, 2023 (EMAIL)

Deceased Arctic Hare

CS Christian Standring
To Merle Keefe
Cc Thomas Bolt

Screenshot_20230812_071727_Canada Maps.jpg
.jpg File

20230812_071709.jpg
.jpg File

Good Morning Merle,

There was a deceased Arctic Hare found just outside of Goose Exploration camp (just past the helicopter pads) this morning around 0700 hours. It had been hit by a vehicle. I gathered the carcass and took a photo and coordinates (attached).

The carcass has been sent to the incinerator.

Please let me know if you have any questions.

Thank you,

Christian Standring
Supervisor, Environment

C [redacted]
T

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APPENDIX G-5 INCIDENTAL WATERFOWL MORTALITY, AUGUST 17, 2023 (EMAIL)

FW: Incidental Waterfowl Mortality

CS Christian Standring [redacted]
To Mitch Fennell

Reply | Reply All | Forward | ...
Tue 2023-09-19 7:59 AM

DSCN3150.JPG .JPG File
DSCN3151.JPG .JPG File

EXTERNAL MESSAGE

See forwarded

Christian Standring
Supervisor, Environment
C: [redacted]
T: [redacted]

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From: Thomas Bolt [redacted]
Sent: August 28, 2023 2:44 PM
To: [redacted]@ec.gc.ca
Cc: Merle Keefe [redacted]; Christian Standring [redacted]
[redacted]@gov.nu.ca
Subject: RE: Incidental Waterfowl Mortality

Good Afternoon,

Apologies for the delay, I want to advise of a red throated loon that during fisheries work completed on Llama Lake on the morning of August 17, 2023, it became entangled in nets and did not survive.

The fisheries work is being completed under DFO authorization No: 12-HCAA-CA7-00007

This specimen will be incinerated, unless otherwise directed.

Thomas Bolt
Coordinator, Environment
C: [redacted]
T: [redacted]

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[redacted] ndring [redacted]
Sent: Wednesday, August 9, 2023 7:44 PM
To: [redacted]@ec.gc.ca
Cc: Merle Keefe [redacted] Thomas Bolt [redacted]
Subject: RE: Incidental Waterfowl Mortality

Good Day,

As per their request, I am including Tatiana and Anna Maija in this report to ECCC.

Thank you,

Christian Standring
Supervisor, Environment

C: [redacted]
T: [redacted]

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From: Christian Standring
Sent: August 9, 2023 4:35 PM
To: [redacted]@ec.gc.ca
Cc: Merle Keefe [redacted] Thomas Bolt [redacted]
Subject: Incidental Waterfowl Mortality

Good Afternoon,

I want to advise that during fisheries work completed on Umwelt Lake on the morning of July 31 2023, a juvenile duck became entangled in nets and did not survive.

Photos of this bird have been reviewed by biologists at WSP and the best estimation of species is long tailed duck. See photos attached.

The fisheries work is being completed under DFO authorization No: 12-HCAA-CA7-00007

This specimen will be incinerated, unless otherwise directed.

We have notified the Government of Nunavut, Fisheries and Oceans Canada, and the Kitikmeot Inuit Association of this incidental take as well.

If you have any questions or concerns, please don't hesitate to reach out.

Thank you and all the best,

Christian Standring
Supervisor, Environment

C: [redacted]
T: [redacted]

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APPENDIX G-6 WATERFOWL MORTALITY, SEPTEMBER 3, 2023 (EMAIL)

FW: Waterfowl Mortalit[redacted]

CS Christian Standring <CStandring@b2gold.com>
To Mitch Fennell

Reply | Reply All | Forward | ...
Tue 2023-09-19 7:49 AM

20230912_170912.jpg .jpg File
20230912_170951.jpg .jpg File
20230912_171015.jpg .jpg File
20230912_171139.jpg .jpg File
20230912_171128.jpg .jpg File
20230912_171123.jpg .jpg File

[redacted]Standring

Sent: September [redacted]
To: aniptanatiak1@gov.nu.ca; rakeeagok@gove.nu.ca; jroesch@lands.kitia.ca; CWS North / SCF Nord (ECCC) <cwsnorth-scfnord@ec.gc.ca>; IncidentalTake.PriseAccesoire@ec.gc.ca; Anna-Maija.Laflamme@dfo-mpo.gc.ca; Tatiana.Leclerc-Beaulieu@dfo-mpo.gc.ca
Cc: Merle Keefe <mkeefe@b2gold.com>; Thomas Bolt <TBolt@b2gold.com>
Subject: Waterfowl Mortality

Good Afternoon All,

Please be advised that during fisheries work completed on Umwelt Lake on September 3 2023, a juvenile duck became entangled in a BSM (Broad Scale Monitoring) gill net and did not survive.
Coordinates of this incidental capture location are UTM 13W 429007 7270859.
The mesh sizes of the BSM net include 32mm, 19mm, 38mm,13mm.
Photos of this bird have been reviewed by a biologist at ERM and the best estimation of species is female Long Tailed Duck (*Clangula hyemalis*). See photos attached.

On September 4 2023, a Red Throated Loon (*Gavia stellate*) was incidentally captured on Umwelt Lake in a small mesh BSM net with panel sizes 32mm, 19mm, 38m, 13mm and 25mm.
Coordinates of this incidental capture location are UTM 13W 428660 7271257.
This fisheries work is being completed under DFO authorization No: 12-HCAA-CA7-00007. This fisheries work was completed as a "fish-out" program targeting all fish species within the lake.
BSM net use is one of several varied capture methods deployed during this program.
This fisheries program is now complete for 2023.
Photos of this individual are attached, for your review.

These specimens will be incinerated unless otherwise directed.

If you have any questions or concerns, please don't hesitate to reach out.

Thank you and have a safe day.

Christian Standring
Supervisor, Environment

C: [redacted]
T: [redacted]

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Waterfowl Mortality

Reply | Reply All | Forward | ...

Christian Standring
To: [redacted]v.nu.ca; [redacted]nds.kitia.ca; CWS North / SCF Nord (ECCC); [redacted]gc.ca; **+2 others**
Cc: Merle Keefe; Thomas Bolt
Tue 2023-09-19 6:25 AM

You forwarded this message on 2023-09-19 7:44 AM.

20230912_170912.jpg .jpg File
20230912_170951.jpg .jpg File
20230912_171015.jpg .jpg File
20230912_171139.jpg .jpg File
20230912_171128.jpg .jpg File
20230912_171123.jpg .jpg File

Good Afternoon All,

Please be advised that during fisheries work completed on Umwelt Lake on September 3 2023, a juvenile duck became entangled in a BSM (Broad Scale Monitoring) gill net and did not survive.
Coordinates of this incidental capture location are UTM 13W 429007 7270859.
The mesh sizes of the BSM net include 32mm, 19mm, 38mm,13mm.
Photos of this bird have been reviewed by a biologist at ERM and the best estimation of species is female Long Tailed Duck (*Clangula hyemalis*). See photos attached.

On September 4 2023, a Red Throated Loon (*Gavia stellate*) was incidentally captured on Umwelt Lake in a small mesh BSM net with panel sizes 32mm, 19mm, 38m, 13mm and 25mm.
Coordinates of this incidental capture location are UTM 13W 428660 7271257.
This fisheries work is being completed under DFO authorization No: 12-HCAA-CA7-00007. This fisheries work was completed as a "fish-out" program targeting all fish species within the lake. BSM net use is one of several varied capture methods deployed during this program.
This fisheries program is now complete for 2023.
Photos of this individual are attached, for your review.

These specimens will be incinerated unless otherwise directed.

If you have any questions or concerns, please don't hesitate to reach out.

Thank you and have a safe day.

Christian Standring
Supervisor, Environment
C: [redacted]
T: [redacted]
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APPENDIX G-7 BIRD MORTALITY, SEPTEMBER 17, 2023 (EMAIL)

From: Thomas Bolt <[redacted]>
Sent: September 17, 2023 3:06 PM
To: [redacted]
Cc: Merle Keefe <[redacted] Christian Standring <[redacted]>
Subject: Bird Mortality

Good afternoon,

During one of the Linewalkers line inspections of the Transfer Conduit(fuel line) at MLA they noticed an owl laying motionless next to the transfer conduit. They reported it to Colin Fraser and myself immediately. I proceeded out and met up with Colin, photos were taken of the bird, find attached. Suspected cause of death is contact with the transfer conduit. Conduit is approximately 24-30 inches off the ground. Owl looks to be a Short Eared Owl.

@rakeeagok@gov.nu.ca-Russell if there is anything you would recommend we can do that.

Weather conditions: Very low light as it was early morning and very heavy fog are contributing factors.

If you have any questions please feel free to reach out.

Regards,

Thomas Bolt
Coordinator, Environment

C: +1 825 522 2827
T: +1 867 988 6858

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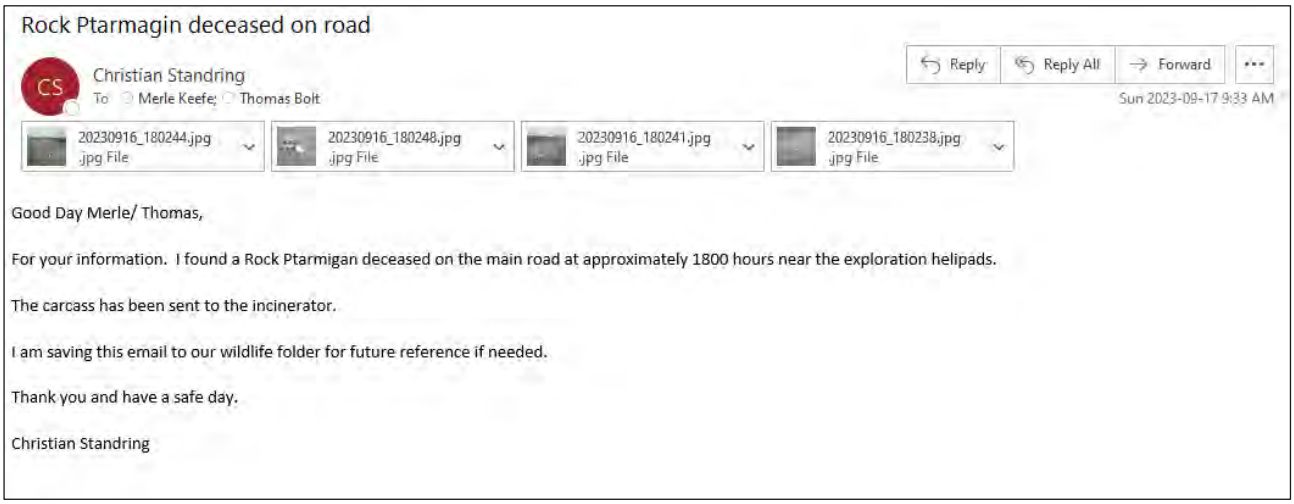
APPENDIX G-8 PTARMIGAN DECEASED ON ROAD, SEPTEMBER 17, 2023 (EMAIL)



Rock Ptarmagin deceased on road

CS Christian Standring

To Merle Keefe; Thomas Bolt

Reply | Reply All | Forward | ...

Sun 2023-09-17 9:33 AM

20230916_180244.jpg .jpg File | 20230916_180248.jpg .jpg File | 20230916_180241.jpg .jpg File | 20230916_180238.jpg .jpg File

Good Day Merle/ Thomas,

For your information. I found a Rock Ptarmigan deceased on the main road at approximately 1800 hours near the exploration helipads.

The carcass has been sent to the incinerator.

I am saving this email to our wildlife folder for future reference if needed.

Thank you and have a safe day.

Christian Standring

APPENDIX G-9 ARCTIC HARE SEPTEMBER 18, 2023

Sept 18, 2023

Wildlife Mortality at MLA

During the nightshift Wildlife Monitor Johnny Nivingalok was travelling northbound on the airstrip at approx. 0500 and looking out to the west. He felt a slight rise in the rear of the truck and stopped and noticed an Arctic Hare was ran over with the rear tire of the pick up.

No photos taken at the time of the incident.

Carcass will be disposed of in the incinerator.

[redacted]

APPENDIX G-10 DEAD PTARMIGAN FOUND IN CORE LAND, SEPTEMBER 26, 2023 (EMAIL)

RE: Dead Ptarmigan Found in Core Land

Reply | Reply All | Forward | ...

Christian Standring
To Caitlin Lavigne

Tue 2023-09-26 1:48 PM

Good Day Caitlin,

Thank you very much for this notification. Also, thank you for the coordinates. And congratulations on your recent download of Canada Maps. It is a very useful tool.

All the best,

Christian Standring
Supervisor, Environment

C: [redacted]
T: [redacted]

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From: Caitlin Lavigne [redacted]
Sent: September 26, 2023 1:38 PM
To: Christian Standring [redacted]
Subject: Dead Ptarmigan Found in Core Land

Good afternoon,

Attached are photos of the 2 dead birds and location found. We will be bringing them to the incinerator.

Caitlin

APPENDIX G-11 DECEASED AMERICAN MARTEN AT STP MBBR, DECEMBER 10, 2023 (EMAIL)

Deceased American Marten at STP MBBR

Reply | Reply All | Forward | ...

CS Christian Standring [redacted]

To [redacted]@gov.nu.ca; CWS North / SCF Nord (ECCC)

Cc Chris LeGoffe; Thomas Bolt; Clara Asamoah; Merle Keefe; Katie Kuker; Mitch Fennell

Sun 2023-12-10 11:02 AM

This message was sent with High importance.

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Good Morning All,

I was called at approximately 07:34 hours this morning by Benji Butler (Site Services Superintendent) to report that a suspected American Marten (*Martes Americana*) was inside the Sewage Treatment Plant (STP) Moving Bed Biofilm Reactor (MBBR) building /structure at our new accommodations camp. I responded with all potentially required safety equipment and deterrents if needed for a potential predatory wildlife response due to the unconfirmed nature of the species at the time of reporting. Upon arrival I was met by Benji and Travis Erickson (Water and Wastewater Treatment Operator) who showed me the area in which the animal was located. Upon seeing the animal, I determined that it was indeed an American Marten.

The Marten was laying on the ground under MBBR #1 tank (see photos attached). It was not moving. We then decided to utilize an air horn in hopes the animal would react and make its way out of the structure. The Marten did not respond to the sound of the air horn. We then utilized a long handled tool to see if the Marten would respond to a gentle touch, which it did not. We then determined that this Marten was indeed deceased. I utilized a garbage bag (double bagged) to collect the deceased Marten (inverted to ensure no potential pathogenic contamination to myself or any outside part of the bag). The body of the Marten was not stiff, which indicates it had not been deceased for a long period of time.

Outdoor temperature at the time of this occurrence was -19 degrees Celsius. Wind was calm and skies were mostly clear, albeit dark. The inside of the structure was considerably warmer due to it being a heated area. The location is approximately UTM: 13W 429970 7269800.

Cause of death or contributing factors to death cannot be determined.

Through regular facilities inspections, we continue to assess our infrastructure to ensure buildings are sealed well and that doors remain closed when not in use to prevent animals from entering. If deficiencies are noted, remedy is requested and communicated to the appropriate working groups.

The Environment department will retain this carcass in a frozen state until December 20th, at which point we will incinerate the carcass of the Marten unless directed otherwise.

Please reach out if you have any questions or concerns.

Thank you and have a safe day.

Christian Standring
Supervisor, Environment

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