

WILDLIFE PROTECTION PLAN

Ulu Gold Project

Kitikmeot Region, Nunavut

February 2021



PLAIN LANGUAGE SUMMARY

This Wildlife Protection Plan describes what will be done to protect wildlife and wildlife habitat during activities associated with the Ulu Gold Project, located near Kugluktuk, in the Kitikmeot Region of Nunavut, Canada.

REVISION HISTORY

Revision #	Date	Section	Summary of Changes	Author	Approver
1	February 2020	-	New document	EDI Environmental Dynamics	P. Kuhn
2	February 2021	Changes throughout to reflect name of project, related activities and authorizations.	Amalgamated existing approved Hood River and Ulu WPPs into 1 document for operational efficiency as all activities will be centralized and based out of Ulu.	EDI Environmental Dynamics	S. Hamm
		Changes throughout to reflect amalgamated and expanded study area.	Update study area to include expansion to the north, for regional exploration.		
		Table 1, Section 1.	Updated to reflect current project authorizations.		
		Section 2.0	Updated contact info.		
		Section 1.1, 2.4, 5.1	Update to include use of UAVs/Drones as project activity and a mitigation measure.		
		Section 5.2	Update to include provisions related to workers fishing recreationally.		
		Sections 5.5, 6.5.2	Updated to reflect responses to party comments during NIRB Screening		

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	Scope	4
1.2	Objectives	4
1.3	Site Description	4
1.4	Plan Management.....	5
1.5	Plan Implementation.....	5
2.0	ROLES AND RESPONSIBILITIES	5
2.1	Blue Star Personnel, Contractors, Suppliers and Visitors.....	6
2.2	Managers and Supervisors	6
2.3	Wildlife Monitors	6
2.4	Pilots.....	6
3.0	POTENTIAL EFFECTS	6
4.0	REGULATIONS AND MANAGEMENT PLANS	7
4.1	Territorial Legislation	7
4.2	Federal Legislation	7
4.3	Land Use Planning.....	9
4.4	Caribou Management	9
5.0	GENERAL MITIGATION MEASURES	11
5.1	Project Design	11
5.2	Awareness and Training	12
5.3	Problem Wildlife Reporting	13
5.4	Waste Management.....	13
5.5	Sensory Disturbance.....	14
6.0	WILDLIFE-SPECIFIC MITIGATION MEASURES.....	14
6.1	Wildlife Dens.....	14
6.2	Birds and Bird Nests	15
6.3	Muskoxen	16
6.4	Grizzly Bear	16
6.5	Caribou	17
7.0	REPORTING AND DOCUMENTATION	22
8.0	REFERENCES	23

Appendix A. Incidental Wildlife Observation Form

LIST OF TABLES

Table 1 Relevant guidance documents including legislation, permits and licences ¹	1
Table 2. Denning season in the Project Area.	15
Table 3. Bird species groups and recommended No Activity Buffers for active nests (Government of Canada 2018).	16
Table 4. List of caribou-specific aircraft avoidance measures.	22

LIST OF MAPS AND FIGURES

Map 1. Ulu Gold Project site map	3
Map 2. Ranges of the Bathurst, Dolphin and Union, Bluenose-east and Ahiak caribou herds relative to the Project.....	18
Figure 1. Annual and seasonal ranges of the Bathurst caribou herd as defined by satellite telemetry from 1996 to 2014 (Government of Northwest Territories 2019).	19

1.0 INTRODUCTION

The Ulu Gold Project (the Project) involves exploration-related activities to assess previously identified gold targets, to conduct prospecting to locate new gold targets, to explore these targets and progressive reclamation of legacy site infrastructure at the existing Ulu property. The Project is located approximately 220 km southeast of Kugluktuk in the Kitikmeot Region of Nunavut (Map 1) and consists of existing Ulu site infrastructure, including a camp, roads, pads, and airstrip and underground mine development as well as a larger study area, including that previous defined as the Hood River Gold Project area, reflecting regional hydrology (Hood River watershed), terrestrial wildlife range and regional exploration areas of interest (the Project Area); the majority of activities are based out of the Ulu camp and undertaken in the local vicinity. The Project is currently accessible by air but was historically accessed by an overland trail connected to the Tibbitt to Contwoyto Winter Road.

This Wildlife Protection Plan (WPP; the Plan) identifies wildlife typically found in the area, describes potential effects that Project Activities may have on wildlife and their habitat, outlines actions that Blue Star Gold Corp. (Blue Star) will take to mitigate effects to wildlife and their habitat, and considers various acts, regulations and guidelines (Table 1). The WPP also considers input provided by the Kitikmeot Inuit Association (KIA), the Kugluktuk Angoniatit Association, Burnside and Omingmaktok Hunters and Trappers Organizations (HTOs) and the public.

Table 1 Relevant guidance documents including legislation, permits and licences¹.

Document	Authority
<i>Nunavut Agreement</i> (1993)	Government of Canada and Inuit of the Nunavut Settlement Area
<i>Species at Risk Act</i> (2002)	Environment and Climate Change Canada
<i>Migratory Birds Convention Act</i> (1994)	Environment and Climate Change Canada
<i>Canada Wildlife Act</i> (1985)	Government of Canada
<i>Nunavut Wildlife Act</i> (2003)	Government of Nunavut
Bathurst Caribou Range Plan (2019)	Department of Environment and Natural Resources, Government of Northwest Territories (GNWT)
Cape Bathurst, Bluenose-west, Bluenose-east Barren ground Caribou Herds Management Plan (2018)	Advisory Committee for Cooperation on Wildlife Management (ACCWM)
Beverly and Qamanirjuaq Caribou Management Plan 2013 – 2022 (2014)	Beverly Qamanirjuaq Caribou Management Board (BQCMCB)
Management Plan for the Dolphin and Union Caribou in Northwest Territories and Nunavut 2018	Government of Northwest Territories (GNWT) and Government of Nunavut
Screening Decision Reports	Nunavut Impact Review Board (NIRB)
Water Licences	Nunavut Water Board (NWB)
Land Use Licences	Kitikmeot Inuit Association (KIA)
Mineral Claims, Leases	Government of Canada
Mineral Exploration Agreements	Nunavut Tunngavik Incorporated
Environment and Heritage Resources Protection Plan	Blue Star
Spill Response Plan	Blue Star
Waste Management Plan	Blue Star

¹ Valid, in place and/or approved at the time of Plan update and may be updated from time to time.

Current and past authorizations exist for exploration–related activities on the properties, including mapping, sampling, geophysics, drilling, prospecting, operating a camp, and conducting archaeology and environmental baseline studies. At the time of Plan issuance, these authorizations include:

- NIRB screening decisions 07EN067, 14EN033, 19EA019, 20EN001;
- NWB water licence 2BE-HRP1924, 2BM-ULU2030;
- KIA land use licence KTL311CO13;
- NTI Mineral Exploration Agreement HOODRIVER-001;
- Crown mining lease L-3563.

For reference, Blue Star Gold Corp. was formerly known as WPC Resources Inc.. Inukshuk Exploration Incorporated is a wholly owned subsidiary of Blue Star Gold Corp.

Program activities occur within the Project Area, with exploration activities such as drilling limited to the areas defined by currently held mineral tenure. It is reasonable to expect that the boundaries of the exploration area may change over time based on exploration results.

1.1 SCOPE

The WPP applies to all activities that may occur over the life of the Project (the Project Activities) and includes:

- Accessing site via an existing airstrip, an ice strip or historic overland winter trail;
- Conducting progressive reclamation of legacy site infrastructure;
- Surface and underground exploration-related activities including but not limited to land and ice-based drilling, prospecting, mapping and surveying;
- Collecting a 5,000-tonne bulk sample for offsite processing;
- Establishing a new or additional exploration camps;
- Maintaining and extending the existing airstrip;
- Utilizing aircraft for access and surveys, including fixed wing, helicopters and unmanned aerial vehicles (UAVs; also referred to as drones);
- Storing fuel;
- Quarrying/borrowing for construction materials; and
- Undertaking studies in support of future impact assessment and mine development planning.

The existing facilities at Ulu, such as the camp and airstrip, may also be used to support other authorized activities in the region including work on the Grays Bay Road and Port. The Ulu camp may be relocated to a more suitable location in the local area. Regional exploration such as prospecting may be based out of an additional small exploration camp.

Project Activities are expected to be seasonal, with camp operation typically occurring between May and October. It is possible that on-ice drilling in spring may occur in subsequent years, with the camp opening in March. Seasonal closure of the camp will typically occur during winter months. Resupply may occur in either spring or summer.

1.2 OBJECTIVES

Blue Star acknowledges that wildlife occur within the Project Area (Map 1), and that the Project Activities have the potential to affect wildlife and wildlife habitat. Accordingly, the primary purpose of the WPP is to outline wildlife avoidance strategies and measures to minimize possible effects.

The objectives of WPP implementation are to:

- Avoid or minimize any Project-related effects on wildlife species and their habitat;
- Avoid adverse effects on specific species such as caribou and their habitats; and
- Minimize wildlife and Project personnel interactions.

1.3 SITE DESCRIPTION

The Project is located within the Southern Arctic Ecozone and the Takijuk Lake Upland Ecoregion. Much of this region is composed of unvegetated rock outcrops. Vegetative cover is characterized by shrub tundra, consisting of dwarf birch, willow, northern Labrador tea, avens species and blueberry species. Organic Cryosols are the dominant soils in the lowlands and permafrost is deep and continuous (Environment and Climate Change Canada (ECCC) 2019).

Characteristic wildlife includes caribou, muskoxen, grizzly bear, wolverine, Arctic hare, Arctic fox, red fox and wolf. Small mammals (e.g., Arctic ground squirrel, voles, and lemmings) are distributed throughout the region and provide an important food source for predators. Many species of migratory birds are present in the area during the summer season, including waterfowl, raptors, songbirds, and shorebirds, while some bird species are present year-round (e.g., ptarmigan, gyrfalcon, and common raven) (ECCC 2019).

Notwithstanding the existing biodiversity in the region, none of the following protected sites were found within the Project area or immediately adjacent:

- Important Bird Areas (IBA) (IBA Canada 2021);
- Key Habitat Sites for migratory birds (Latour et al. 2008);
- Wetlands of International Importance (RAMSAR) (The Ramsar Sites 2021);
- Migratory Bird or Wildlife Sanctuaries (Government of Canada 2021); or
- Heritage Rivers (Canadian Heritage Rivers System 2021).

1.4 PLAN MANAGEMENT

This Plan considers the wildlife species and their habitat that have the potential to occur within or adjacent to the Project area, and the related potential effects arising from Project Activities. The Plan will be reviewed annually by the Project Manager and may be updated if:

- The Program scope changes to include new activities;
- Changes in conditions that could be biologically meaningful have been observed, such as caribou calving within the Project area;
- Results of ongoing stakeholder engagements indicate a WPP revision is necessary.

1.5 PLAN IMPLEMENTATION

This WPP is implemented upon approval and is valid throughout all phases of the Project.

The Project Manager or designate is responsible for WPP implementation.

A copy of this WPP is kept at the on-site office.

2.0 ROLES AND RESPONSIBILITIES

Blue Star is responsible for activities associated with the Project, including implementation and management of this WPP. Blue Star's contact information is provided below.

Blue Star Gold Corp.

Suite 507-700 W. Pender Street
Vancouver BC V6C 1G8
Phone: 1 778-379-1433

Contact: Darren Lindsay, Vice President of Exploration

Phone: 1 778-379-1433
Email: d.lindsay@bluestargold.ca

2.1 BLUE STAR PERSONNEL, CONTRACTORS, SUPPLIERS AND VISITORS

All site personnel will be familiar with the importance of wildlife within Nunavut and understand the intent of and the actions identified within the WPP. All site personnel, including Blue Star staff, contractors and site visitors (including inspectors), unless permitted by other licenses and permits, are expected to adhere to the WPP. Specifically, these responsibilities include:

- Completing site orientation including wildlife awareness training;
- Reporting all incidental wildlife observations to the Wildlife Monitor or Project Manager; and
- Adhering to all established No Activity Buffers.

2.2 MANAGERS AND SUPERVISORS

Managers and supervisors have a responsibility to confirm that staff, contractors, consultants and visitors have been trained in Blue Star wildlife mitigation expectations and procedures. Additional supervisor and manager responsibilities include:

- Conducting wildlife awareness training;
- Confirming that all personnel adhere to recommended mitigation measures; and
- Confirming that all personnel adhere to all established No Activity Buffers.

2.3 WILDLIFE MONITORS

Designated personnel trained and qualified as Wildlife Monitors are responsible for:

- Confirming wildlife sensitive areas (dens, nests etc.) and establishing appropriate No Activity Buffers;
- Confirming presence/absence of caribou and other wildlife of special concern within the vicinity of Project Activities;
- Responding to wildlife sightings and implementing recommended mitigation measures;
- Responding to wildlife interactions; and
- Managing wildlife documentation.

2.4 PILOTS

All pilots (helicopter, fixed wing, UAV/drone) are responsible for:

- Avoiding sensory disturbances to wildlife as described in Sections 5.5, 6.2, and 6.5.2 and Table 4 of this WPP; and
- Following flying limits always except in emergency circumstances, during take-off and landing, and low level surveys (i.e. drone) when wildlife are absent.

3.0 POTENTIAL EFFECTS

Project Activities could potentially have the following effects on wildlife and their habitat:

- Loss of habitat
- Displacement from and avoidance of habitat;
- Habituation and attraction to personnel, activities and/or the camp; and
- Unintentional interactions, disturbances and mortalities.

4.0 REGULATIONS AND MANAGEMENT PLANS

The first step in mitigating Project-related effects is compliance with all relevant regulatory instruments such as the *Nunavut Wildlife Act* and land use permit conditions. Mitigation measures should also align with the goals and objectives of any land use plans for the area and any pertinent wildlife management plans.

4.1 TERRITORIAL LEGISLATION

Nunavut Wildlife Act

The purpose of the *Nunavut Wildlife Act* (2003) is to establish a comprehensive program for the management of wildlife and their habitat including the conservation, protection and recovery of species at risk in a manner that implements provisions of the *Nunavut Land Claims Agreement* respecting wildlife, habitat and the rights of Inuit in relation to wildlife and their habitat.

This Act prohibits: killing or taking of birds, their nests and eggs; unless authorized by a licence engaging in any activity, other than harvesting, that is likely to result in a significant disturbance to a substantial number of wildlife including breaking into, destroying or damaging a wildlife den; the chasing, wearying, harassing, molesting or intentionally feeding a wild animal is also prohibited.

4.2 FEDERAL LEGISLATION

Migratory Birds Convention Act

The *Migratory Birds Convention Act* (1994) prohibits killing or taking of migratory birds, their nests and eggs, and the deposition of harmful substances in areas frequented by migratory birds. Moving or disturbing migratory birds, their nests or eggs is a contravention of the Act.

Species at Risk Act

The *Species at Risk Act* (SARA 2002) was created to protect at risk wildlife on federal lands, as well as to define the critical habitat of listed species. The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) identifies and categorizes species at risk. The federal government considers these designations and may list species under SARA. Species listed under SARA have legal protection.

According to the Species at Risk Public Registry (Government of Canada 2021), the following species at risk could be observed within the Project Area:

- Barren-ground caribou including Dolphin and Union Populations;
- Grizzly bear;
- Polar bear;
- Wolverine;
- Peregrine Falcon;
- Short-eared Owl;
- Eskimo Curlew; and
- Red-necked Phalarope.

Different populations or herds of barren-ground caribou range throughout Nunavut. Barren-ground caribou is assessed by COSEWIC as being *threatened* and the Dolphin and Union populations are

considered *endangered* by COSEWIC and listed under Schedule 1 as being of *special concern*. An increase in mineral exploration and development within barren-ground caribou habitat may cause some changes to caribou populations and available habitat. A portion of the Project Area occurs within the delineated Bathurst herd range but there is the possibility of individuals from the Bluenose-east, Beverly, Ahik and the Dolphin and Union herds to wander within the Project area seasonally.

Grizzly bear is listed federally as a species of *special concern*. Human activities such as campsites and industrial development may lead to bear-human conflicts and human-caused mortalities. Grizzly bears are becoming more common in areas of the Northwest Territories and Nunavut where they used to be rarely seen (Environment Canada 2014).

Polar bear is listed federally as a species of *special concern* and is found throughout the ice-covered coastal regions of the Arctic. Polar bear require both marine (sea-ice) and terrestrial habitat. Polar bear are known to use terrestrial habitat seasonally and most females den on land. Sea-ice is the most important factor affecting polar bear habitat selection and typically they move to land when ice concentration declines to 30-50% (COSEWIC 2018a). The probability of a polar bear being observed within the Project Area is very low.

Wolverine is listed federally as a species of *special concern*. The potential threat to wolverine in the Territories is associated with human development or activities, disturbances to denning areas and human-caused mortalities due to conflicts (Environment Canada 2014).

Peregrine Falcon is federally listed as a species of *special concern* but based on a COSEWIC re-assessment in 2018 (COSEWIC 2018b) is under consideration for upgrading to *not at risk*. While potential threats in the Territories include poaching of eggs for falconry, declining songbird or seabird prey populations, and susceptibility to organochlorine pesticide contamination (Environment Canada 2014), the Project poses none of these threats to Peregrine falcon.

Short-eared Owl is listed federally as a species of *special concern*. The potential threat in their Canadian range is human disturbance during the nesting period, which often results in the nest being deserted and with habitat loss and alteration. Nests are found on the ground in grasslands, tundra, bogs, marshes and other open non-forested habitats (Environment Canada 2014). The potential threat to populations in Nunavut is unclear.

Eskimo Curlew is listed federally as *endangered* and overwinters in South America. This species has been confirmed as breeding only in Canada and confirmed nesting sites have come from only two areas in the Northwest Territories (base of Bathurst Peninsula and near Point Lake). The Project Area occurs within the migration routes of the Eskimo Curlew over North America and outside of areas described as potential or probable breeding areas (COSEWIC 2009).

Red-necked Phalarope is listed federally as a species of *special concern*. This species breeds in low- and sub-Arctic wetlands, near freshwater ponds, lakes, or streams. Climate changes could potentially dry out freshwater ponds and the expansion of shrubs into low- and sub-Arctic wetland habitats is expected to have a significant impact of habitat quality and availability (COSEWIC 2014). The build-up of contaminants in the Arctic environment and increase in industrial activities may also have negative impacts on breeding habitat (COSEWIC 2014).

Other bird species are listed to occur within Nunavut but their known distribution is not within or immediately adjacent to the Project Area but some of the listed bird species could stop over within the site during spring or fall migration.

4.3 LAND USE PLANNING

The purpose of a land use plan is to outline which activities may occur where on a landscape. While there is no current approved land use plan for the Project area, the current draft of the Nunavut Land Use Plan (NLUP; NPC 2016) is undergoing public review. Should the DNLUP be recommended for approval by the Nunavut Planning Commission (NPC) and approved by each of the Government of Nunavut, Government of Canada and NTI, it will apply to all Projects/Project proposals within the Nunavut Settlement Area (NSA) and Outer Land Fast Ice Zone including surface and subsurface lands, freshwater, marine areas and the beds of these bodies of water (NPC 2016). Once approved and in force, this section of this Plan will be updated, outlining relevant provisions.

4.4 CARIBOU MANAGEMENT

In general, the purpose of caribou management and range plans is to provide guidance to manage this keystone species which plays a key ecological and cultural role in northern ecosystems. Four caribou management or range plans are applicable to the caribou populations that may interact with the Project Area. The potential relevance of these plans to this WPP are described below. Further, caribou management tools in place elsewhere in Nunavut are discussed herein and are considered guidance.

At the time of Plan issuance, there is no management plan or specific process for the Ahiak herd but the herd is within the jurisdiction of the Wek'eezhii Renewable Resources Board and the Nunavut Wildlife Management Board as well as the Governments of Nunavut and Northwest Territories.

Bathurst Caribou Range Plan

The Northwest Territories Department of Environment and Natural Resources has drafted a Bathurst Caribou Range Plan (Range Plan) that aims to balance the diverse interests of all governments, communities and stakeholders across the range in Nunavut, Northwest Territories and northern Saskatchewan (Government of Northwest Territories 2019). This range plan primarily has the goal of addressing issues related to cumulative land disturbance but is focused on managing disturbance to caribou and habitat to support recovery of the herd.

The Range Plan includes four specific management objectives:

1. Ensure the integrity of important habitats.
2. Ensure connectivity between seasonal ranges.
3. Ensure the amount of human-caused land disturbance is kept below certain levels.
4. Ensure the development, design and use of roads is managed with consideration to caribou.

Through application of the WPP, Blue Star endeavors to follow these objectives.

Cape Bathurst, Bluenose-west, and Bluenose-east Barren-ground Caribou Herds Management Plan

In 2008, the Advisory Committee for Cooperation on Wildlife Management (ACCWM) was established. The ACCWM is made up of seven co-management boards and agencies with the priority to develop a plan for the Cape Bathurst, Bluenose-west and Bluenose-east caribou herds. The Cape Bathurst, Bluenose-west and Bluenose-east barren-ground herds management plan goals are to:

- Maintain herds within known natural range of variation;
- Conserve and manage caribou habitat; and
- Ensure that harvesting is respectful and sustainable (ACCWM 2014).

The following principles from the management plan are reflected in this WPP:

- Impacts to caribou herds and their habitat will be anticipated; and
- Adequate habitat (quantity and quality) is fundamental to the welfare of the herds (ACCWM 2014).

The WPP includes mitigation measures that align with these goals and principles, where appropriate.

Beverly and Qamanirjuaq Caribou Management Plan 2013-2022

The Beverly and Qamanirjuaq Caribou Management Board (BQCMB) manages these two caribou herds that migrate across Manitoba, Saskatchewan, the Northwest Territories and Nunavut. The BQCMB is made up of hunters, biologists and wildlife managers from Northern Canada. The mission of the BQCMB is to ensure the long-term conservation of the Beverly and Qamanirjuaq caribou herds. This management plan defines and outlines nine key goals:

1. To conserve the Beverly and Qamanirjuaq caribou herds in a cooperative manner;
2. To strengthen support for caribou conservation;
3. To increase knowledge of barren-ground caribou and the caribou-human system;
4. To monitor caribou population status over time;
5. To monitor the harvest of caribou;
6. To conserve the Beverly and Qamanirjuaq caribou herds within their natural range of abundance;
7. To ensure adequate amounts of high quality habitat;
8. To strive for the sustainable [wise] use of caribou; and
9. To influence commercial land use in a way that protects Beverly and Qamanirjuaq caribou and their habitats (BQCMB 2014).

The WPP includes mitigation measures that align with these goals, where appropriate.

Management Plan for the Dolphin and Union Caribou in the Northwest Territories and Nunavut

This plan describes management goals and objectives for the Dolphin and Union caribou herds (referred to locally as Island caribou) and also recommends approaches to achieve those objectives (Government of Northwest Territories and Government of Nunavut. 2018). The goal of the management plan is to

provide sustainable harvest opportunities for current and future generations and to maintain the long term persistence of a healthy and viable caribou population that moves freely across its current range.

To achieve this goal, five objectives have been established, combined with twelve recommended approaches:

1. Adaptively co-manage Dolphin and Union caribou using a community-based approach.
2. Communicate and exchange information on an ongoing basis between parties using a collaborative and coordinated approach.
3. Collect information to fill knowledge gaps on Dolphin and Union caribou using *Inuit Qaujimajatuqangit* (IQ) and traditional knowledge (TK), community monitoring and scientific methods.
4. Minimize disturbance to habitat and preserve sea ice crossings to maintain the ability of Dolphin and Union caribou to move freely across their range.
5. Ensure management is based on population level so future generations can benefit from sustainable harvesting opportunities (GNWT and GN 2018).

The WPP includes mitigation measures that align with these objectives, where appropriate.

Mobile Caribou Conservation Measures for the Kivalliq Region

On behalf of the Kivalliq Inuit Association (KIA), Poole and Gunn (2015) developed Mobile Caribou Conservation Measures for the Kivalliq Region, Nunavut to minimize the potential effects of mining and exploration activities to caribou. The suggested measures are a tool to separate exploration activities from caribou, based on rules of conduct for industrial activities that may cause disturbance to caribou.

Implementation of mobile conservation measures may reduce encounters with and exposure of caribou to exploration camps, aircraft, and related activities through avoiding and minimizing impacts. The mobile measures do allow some flexibility by allowing activities to occur if caribou are not in the vicinity within a seasonal Conservation Area (e.g., calving, post-calving, and migratory).

The WPP includes mitigation measures that aligns with the concept of mobile caribou conservation measures.

5.0 GENERAL MITIGATION MEASURES

A variety of mitigation measures will be employed to avoid or minimize potential Project-related effects on wildlife and their habitat. General measures are outlined below, while additional species-specific mitigation measures are presented in subsequent sections. The measures presented are designed to be practicable, effective, relative to the Project scope and responsive to wildlife use of the habitat in the Project Area. The WPP incorporates best management practices, the latest available scientific information, as well as input from the landowners and land users.

5.1 PROJECT DESIGN

Mitigation through Project design involves consideration of potential effects prior to commencing Project Activities and factoring mitigation measures in to how the Project will be undertaken. Mitigation by design includes:

- Selecting new camp locations to avoid known sensitive habitats or wildlife habitat features (e.g. wildlife trails, den sites, raptor nests, etc.);
- Designing a camp layout in a manner that avoids wildlife entrapment and attraction;
- Minimizing activity footprint to existing disturbed areas wherever possible;
- Planning for camp construction to occur outside times that are sensitive for wildlife (e.g. spring calving, nesting);
- Minimizing the footprint of drill pads by utilizing a small drill where possible, maintaining a consolidated work area, and drilling multiple holes from one set-up;
- Choosing drill pad locations in a manner that considers known sensitive wildlife areas and maximizes the drilling to occur from each pad, thus reducing the number of drill set-ups;
- Utilizing air access to the extent possible in summer, minimizing the establishment of new roads and trails on the tundra;
- Locating sumps, fuel caches, quarries, any new camp and equipment greater than 31 metres from the high water mark of any waterbody, unless otherwise approved, to avoid effects to aquatic life and habitat;
- Utilizing a drone for aerial and geophysical surveys where possible instead of fixed wing aircraft, helicopter or a snowmobile, to reduce wildlife disturbance.

5.2 AWARENESS AND TRAINING

The purpose of personnel training and awareness is to demonstrate that it is each person's responsibility to minimize Project effects on wildlife, including disruption and disturbance to wildlife, and to assist with the safety of all personnel involved with the exploration Program.

As a part of the Site Orientation, all personnel, including staff and contractors, will be engaged in a discussion on local wildlife resources including the following:

- Basic local wildlife ecology and possible Project-related effects on wildlife and wildlife habitat;
- Operating protocols such as incidental observation reporting;
- Awareness of known wildlife-sensitive areas such as breeding areas, den sites, nests and wildlife-sensitive periods;
- Project protocols associated with dealing with aggressive or unusual wildlife behaviour around work areas or camp;
- Wildlife attractant management;
- Wildlife safety including bears and predators, detection and deterrence;
- Wildlife incident reporting and response procedures; and
- Compliance expectations and non-compliance disciplinary actions that may be enforced.

Further, personnel have the following responsibilities:

- Avoid any contact with wildlife including approaching, harassing, disturbing and feeding wildlife;
- Try to stay out of sight of wildlife or redirect travel away from wildlife where possible;
- If caribou cows and calves, muskoxen groups or other wildlife aggregations are observed foraging or migrating within a work area as crews approach, avoid the work area until the animals have moved a minimum distance of 300 m from the site;
- Avoid deliberate destruction or disruption of bird nests, eggs, wildlife dens, burrows, and other sensitive habitat features; and

- Record all wildlife sightings in the Wildlife Incidental Observation Log (Appendix A).

Finally, the following restrictions apply to all project personnel:

- Project personnel and contractors are not permitted to hunt while conducting business on behalf of Blue Star within the Project area;
- Project personnel and contractors are permitted to fish after work hours but must hold a valid Sport Fishing Licence or be a beneficiary of the Nunavut Agreement and abide by all requirements therein;
- Registered firearms may be carried and stored by designated, trained personnel and be used to protect worker safety only;
- All firearms discharges are reported to the Camp Manager.

5.3 PROBLEM WILDLIFE REPORTING

Problematic wildlife situations may arise where an animal acts in an aggressive manner, is a repetitive nuisance, or poses a threat to worker safety. Early detection and reporting of wildlife interactions supports proactive rather than reactive measures to be taken to prevent injury or destruction of a problem animal. If an animal is seen within camp or becomes a nuisance the following measures will be implemented:

- Immediately notify the Camp Manager;
- Remove the attractant, where relevant;
- If persistent or emergent the Camp Manager, or designate, will inform the Government of Nunavut Conservation Officer and seek advice on suitable action to be taken;
- If a person or property is harmed or in imminent danger, activate an emergency response.

All human-bear interactions will be reported immediately to the Camp Manager who will report the incident to the Government of Nunavut Conservation Officer and the KIA.

5.4 WASTE MANAGEMENT

Proper waste management minimizes wildlife attraction to work areas. The following waste management measures, as documented in the Waste Management Plan will be employed:

- Garbage, including all food wastes, will be temporarily stored in covered, metal containers, and will be removed daily;
- Food waste will be incinerated daily or securely stored for backhaul;
- Sewage will be incinerated on site, whenever possible, or otherwise managed in accordance with authorizations;
- Wastes and materials will be stored in accordance with the Spill Response Plan;
- Open top buckets or similar, containing waste products will not be left unattended; and
- If aggressive wildlife become an issue at camp, installation of an electric fence around camp or at a minimum around any waste management facilities or fuel storage areas may be implemented.

5.5 SENSORY DISTURBANCE

Project-related activities that generate noise have the potential of creating sensory disturbances to wildlife. Sensory disturbance will be minimized by managing noise emitted by aircrafts, drilling and blasting activities, generators, and any use of heavy equipment. Noise abatement measures include:

- If wildlife are observed, pilots will avoid wildlife by 300 m, or as otherwise presented in Table 4 except where low-elevation surveys are required, during take-off and landing, and at pilot's safety discretion;
- Pilots will avoid known raptor nests by at least 500 m and report all incidental sightings and nests;
- All equipment will be maintained and fit with appropriate mufflers; and
- All wildlife specific mitigation measures listed in the following sections related to blasting will be implemented.

During camp operation, sensory disturbance to birds includes using directed lighting, rather than broad lighting, wherever possible by directing lighting into the facility and toward the ground, limiting stray lighting.

6.0 WILDLIFE-SPECIFIC MITIGATION MEASURES

6.1 WILDLIFE DENS

Grizzly bears could use the Project Area for hibernation. Grizzly bears in general enter dens that are excavated on well drained slopes, typically with a southern aspect, in late October and occupy the den for as long as seven months (timing varies by sex and age) (Species at Risk Committee 2017).

Wolf dens can be located on the tundra. Wolves typically do not burrow to create dens but use caves and rocks that provide shelter. The denning period for wolves usually begins in early May and can last until mid-September when pups are old enough to travel with the pack.

Wolverine dens occur in areas where deep snow persists throughout the denning season such as ravines or drainages where snow accumulates, snow-covered rocky scree, or boulder talus or taiga peat bogs with rocky areas. Wolverine denning period can commence as early as February and can last until late May.

Both Arctic fox and red fox may be present within the Project Area. Fox den sites are typically located on the tops or sides of eskers, or the tops of banks of lakes or rivers where the soil is sandy, dry, and stable. Den sites are usually free of snow earlier than the surrounding landscape. Pairs often return to the same area and dens may be up to 300 years old and possess as many as 100 entrances. Arctic fox pairs start to seek den sites beginning in February and March.

Prior to activities being undertaken in previously undisturbed areas including camp construction, drilling and blasting during the denning season (April to August), the Wildlife Monitor or qualified person will complete the following to minimize disturbance to or destruction of wildlife dens:

- Search the proposed activities area for any signs of denning activity at least one week before the disturbance commences during the various denning seasons (Table 2);
- Record known den locations;

- Determine if dens are active, and note the distance from proposed activities;
- If an active den is located, a No Activity Buffer will be implemented around the den, with the buffer distance determined in consultation with the KivA and the GN;
- Suspend activities within the buffer area until the den is no longer being used; and
- Whenever possible avoid disturbing or destroying dens, even when not in use.

Table 2. Denning season in the Project Area.

Wildlife Species	Denning Season
Grizzly bear	Late October – Early May
Wolf	Mid-April – Mid-September
Wolverine	Early February – Late May
Arctic fox	Late April – Mid-August
Red fox	March – Late July

6.2 BIRDS AND BIRD NESTS

The following bird groups may occur within the Project area:

- Raptors (Rough-legged Hawk, Bald Eagle, Peregrine Falcon, Gyrfalcon, Short-eared Owl, and Snowy Owl);
- Waterfowl;
- Shorebirds;
- Songbirds; and
- Gamebirds (Willow Ptarmigan, Rock Ptarmigan).

All bird species and their associated habitats can be affected by various factors associated with Project exploration activities, including removal of habitat, low-flying aircraft and camp activities.

During the breeding bird season (Mid-May to Mid-August), in areas where a camp is constructed or drilling or blasting is planned, the Wildlife Monitor or designated qualified person will conduct a pre-disturbance survey a minimum of 48 hrs prior to any planned activity to verify that no nest will be destroyed or nesting bird disturbed during the planned activity.

If active nests are encountered:

- Cease activities in the vicinity immediately to confirm that the nest is not disturbed;
- Establish a No Activity Buffer as outlined in Table 3;
- Confirm the No Activity Buffers is maintained until:
 - Raptor nest: the Wildlife Monitor confirms the nest is no longer in use;
 - All other active nests: until the end of the breeding season or until the young have fledged;
- Record nest coordinates.

Table 3. Bird species groups and recommended No Activity Buffers for active nests (Government of Canada 2018).

Bird Species Group	Recommended No Activity Buffer
Gulls and Terns nests	1 km from drilling 300 m from other activities
Duck nests	50 m
Geese nests	50 m
Loons, Tundra Swan and Sandhill Crane nests	750 m to 1000 m
Raptors nests	500 m
Other bird species nests (songbirds, shorebirds and gamebirds)	Minimum 30 m species and activity dependent

Other bird mitigation measures include:

- Leaving all raptor nests intact, even when deemed non-active.
- The seaward site of seabird colonies and areas used by flocks of migrating waterfowl will be avoided by 3,000 m (3 km).
- Where large concentrations of birds are observed, maintaining a flight altitude of 1,000 m vertical distance and 1,500 m horizontal distance from the birds except during take-off and landing (applies to staging or moulting birds on the ground/water), or in an emergency.
- Confirming that aircraft do not, unless for emergency, touchdown in areas where concentrations of wildlife are present.
- Avoiding active raptor nesting sites by 500 m with all aircraft.

6.3 MUSKOXEN

Muskoxen herds maybe present within the Project Area and may be disturbed by low-flying aircraft or by humans on foot. When disturbed, muskoxen may act defensively, first standing their ground in a defensive ring and, when pressed closely, stampeding away from danger (Lent 1999).

Aircraft will maintain a minimum 300 m altitude above the ground (equivalent to flight height guidelines for caribou) when traveling in the vicinity of muskoxen. Except in an emergency, no landings will be allowed in areas where muskoxen are present.

During times when muskoxen are visible from the camp or a drill, all personnel will remain in the camp or drill shack to the greatest extent possible until the muskoxen have moved out of sight.

Should crews conducting land-based surveys on foot encounter muskoxen they will divert their course to stay out of sight of the muskoxen.

6.4 GRIZZLY BEAR

In Nunavut, grizzly bears can be found in large portions of the Kitikmeot region and may be present within the Project area. Should a grizzly bear be in the vicinity of the camp or a drill, all personnel will remain in the camp or drill shack to the greatest extent possible until the grizzly bear has moved a safe distance away.

Should crews conducting land-based surveys on foot encounter a grizzly bear at a safe distance they will divert their course to stay away from the bear. If a human-bear encounter is imminent, a helicopter may be used to assist in deterring bears from entering the camp if necessary, and from the immediate vicinity of field crews. A helicopter may subsequently evacuate field personnel from potential bear encounter situations.

No aerial harassment of any wildlife for any purposes including photography will be permitted.

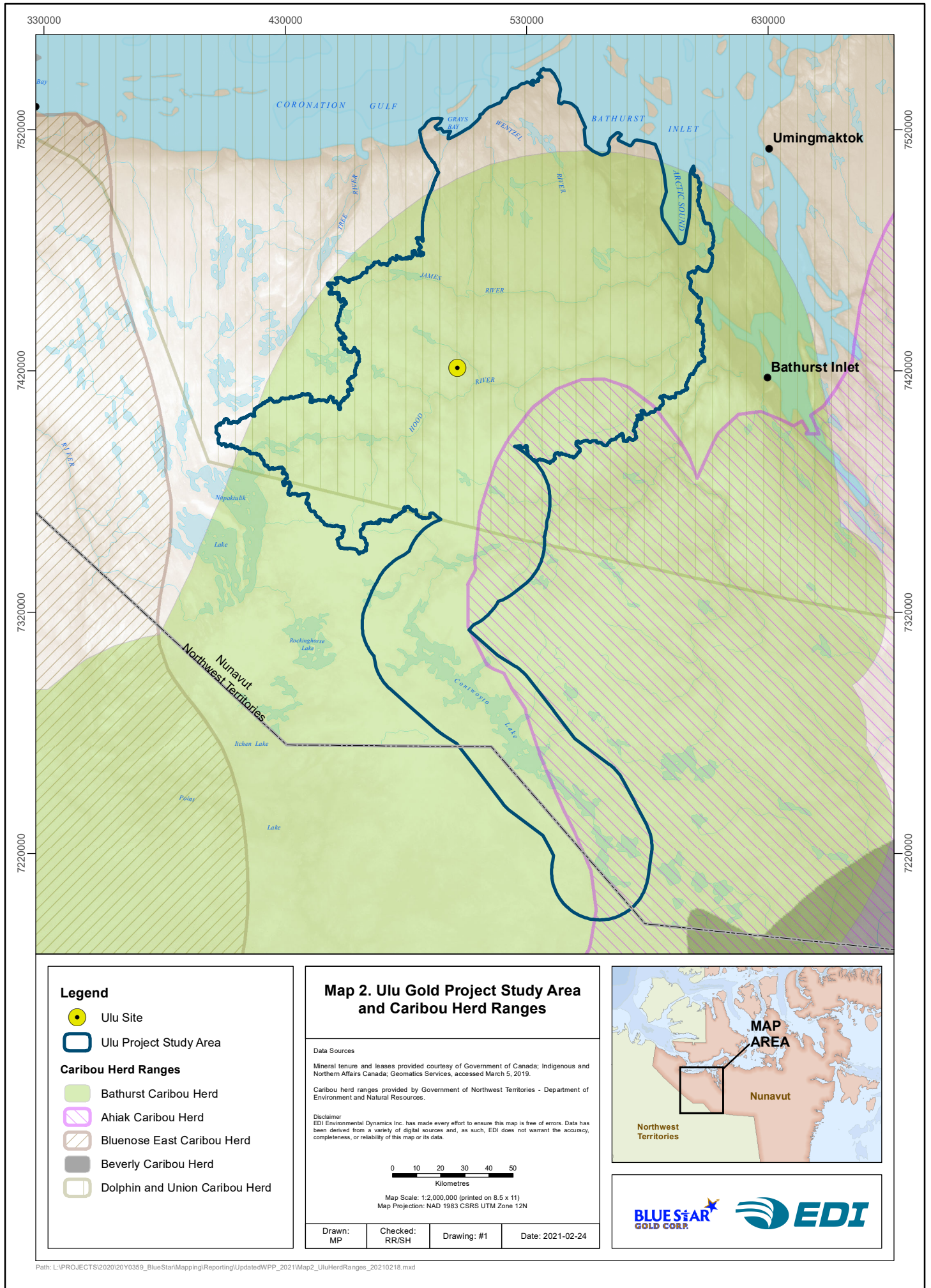
6.5 CARIBOU

Caribou occur throughout the Kitikmeot Region, with animals from several herds occurring within the region annually or seasonally. According to the various available management plans and to the COSEWIC barren ground caribou assessment and status report, members of the following barren-ground caribou subpopulations have the potential to be observed within the Project area: Bathurst, Bluenose East, Beverly, Ahiak and the Dolphin and Union (COSEWIC 2016). The Project Area is located primarily within the Bathurst herd range and the Dolphin and Union winter range but individuals from the other herds may wander into the Project area (Map 2).

Parts of the Project area exist at the northern extent of the Bathurst herd range. Based on telemetry data collected from 1996 to 2014 (GNWT 2019; Figure 1), the Bathurst herd is considered to have an annual range utilization of parts of the Project area that are high to moderate use specifically during spring, calving, post-calving, and summer seasons (April 20 to September 7); calving and post-calving (June 2 to June 25) range is considered to be of moderate use. It should be noted that the Bathurst herd is considered to have no utilization of the Project area during the fall (September 7 to November 30) and winter (December 1 to April 19) (Figure 1).

While the Project area is within the Dolphin and Union herd winter range, it is unlikely that members of the Dolphin and Union herd could interact with the Project Activities, which predominantly occur when the herd is typically not using the area.

The Project area is beyond the delineated range for the Bluenose-east, the Beverly and the Ahiak caribou herds (Map 2), including known calving areas; however, it is possible for individuals to wander into the Project area during any season.



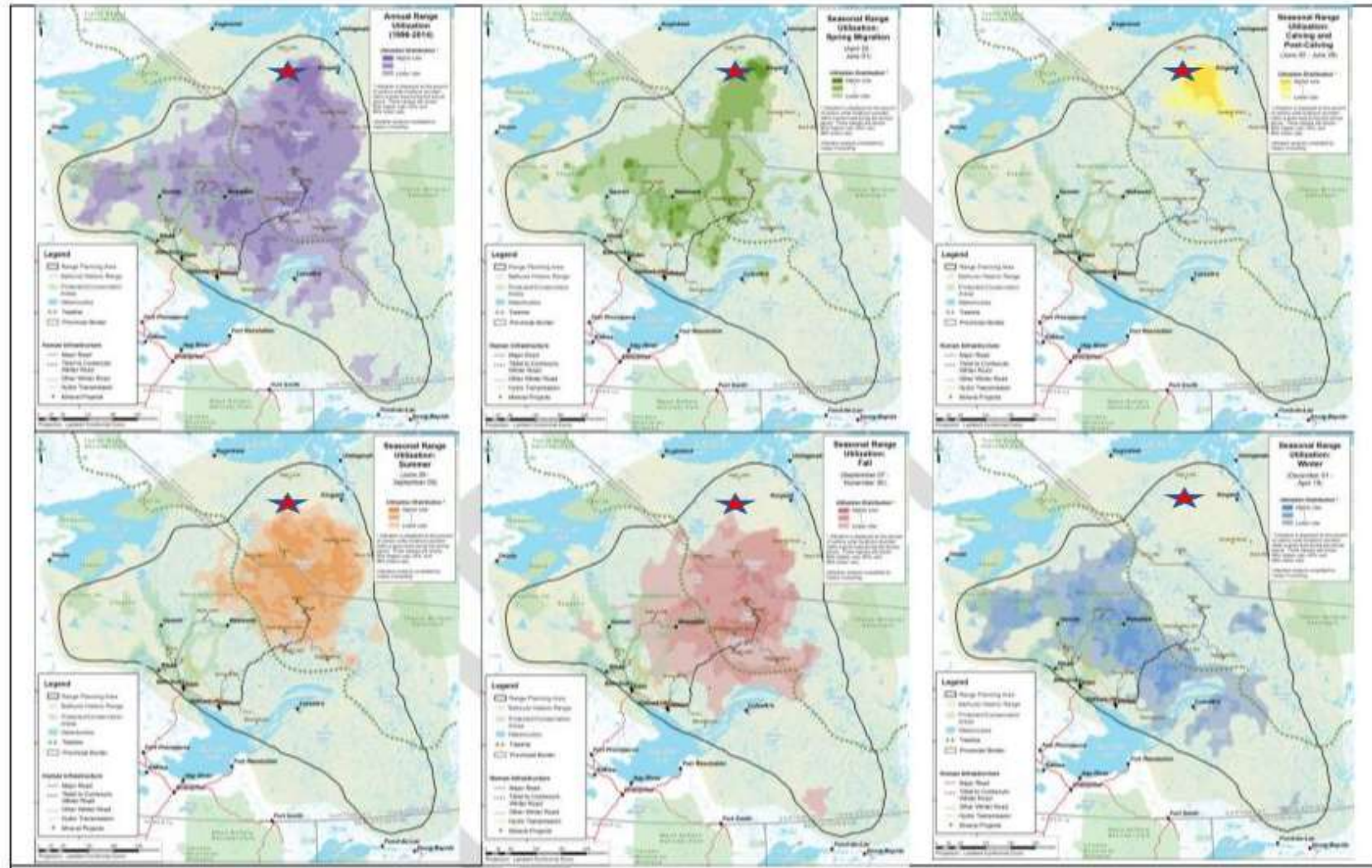


Figure 1. Annual and seasonal ranges of the Bathurst caribou herd as defined by satellite telemetry from 1996 to 2014 (Government of Northwest Territories 2019)¹.

¹ Project location identified with red star.

6.5.1 Potential Project Interactions

Given the social and ecological importance of caribou to Nunavut, and the specific consideration afforded caribou, it is important to consider caribou-specific Project interactions and understand the relative risk posed by the Project to caribou.

Caribou and their associated habitats can be affected by various factors associated with construction, operation and closure activities, including removal of habitat, disturbance from vehicles and equipment, and camp activities. The Project may interact with caribou via:

- Indirect habitat loss
 - Avoidance or reduced use of areas near a disturbance; and
 - Increased energy expenditure due to a response to sensory disturbance.
- Disruption of movement
 - Delayed crossing or avoidance of Project Area.
- Mortality
 - Direct, through collision with vehicle;
 - Indirect, through increased hunter knowledge of caribou in the area that may arise through informal and social communications.

Vehicular use on roads within the existing developed area may pose a risk to caribou should caribou occur in the area. Vehicular use on the land outside the developed area is limited (snow machines), the risk of caribou mortality due to vehicle collisions is considered low. Conversations with the Hunter and Trapper Organizations (HTOs) indicate that the Project area is not highly used by harvesters, so indirect mortality associated with an increase access for hunters to the Project Area is unlikely. Further, caribou are typically not attracted to facilities such as camps, so the risk of direct mortality arising from camp interaction is also considered unlikely.

There is a low probability that there will be any Project effects on Dolphin and Union caribou during the winter (December to early March) as activities are typically planned to occur during the rest of the year.

6.5.2 Mitigation and Management Measures

In addition to the general mitigation measures presented in Sections 5.1, 5.2 and 5.5, and in consideration of input received from the KIA and the HTOs, the following caribou-specific mitigation measures will be considered for the Project. Measures are designed to be responsive to caribou use of the land in the Project Area and may be updated as more information on caribou use of the area becomes available through recorded observations and monitoring. Incidental observations by all Project personnel may trigger immediate mitigation measures, such as avoidance. Relevant incidental observations may also trigger additional measures and active monitoring.

Should work be undertaken during the calving season (May 15 to July 15), the following measures will be implemented:

- Current and historical Bathurst caribou collar locations will be obtained from the GNWT, under a data sharing agreement to assist with planning of exploration activities during calving and post-calving to avoid areas repeatedly used by caribou during this time;

- When crews are operating remotely, daily morning observations from the air will be made to judge proximity of caribou to activity sites and, based on caribou proximity and numbers, the Wildlife Monitor will decide on appropriate response;
- If a group of 50 or more caribou are observed within 1 km of project operations or camp at any time all activities within 1 km will be suspended including low-level over flights, drilling, blasting/trenching, and use of snow mobiles, all-terrain vehicle and light and heavy trucks outside the immediate vicinity of the work area, until caribou are no longer in the immediate area;
- If a cow and calf are observed within 1 km of Project Activities:
 - Activities within 1 km will be suspended or relocated until the Wildlife Monitor deems that the observed animals have moved 2 km away from the area;
 - Helicopters will be grounded, and personnel will remain in the camp until caribou are no longer in the immediate area; and
- Any camp construction will occur in an area outside of high potential habitat for Bathurst caribou calving.

The following measure will be implemented during all seasons:

- Caribou on the airstrip:
 - Prior to departure, if caribou approach the airstrip within 600 m, the flight will be delayed or cancelled until caribou move away.
 - Prior to landing, if caribou are on the airstrip, they will be deterred from the airstrip in such a manner that minimizes stress to the caribou.
 - If caribou become habituated to the site, then caribou may be deterred as per direction from the GN-Department of Environment (DoE) Conservation Officer to confirm compliance with the *Nunavut Wildlife Act* (2003).
- If a group of 50 or more caribou are observed within 1 km of Project Activities at any time all activities within 1 km will be suspended including low-level over flights, until caribou are no longer in the immediate area;
- Should caribou migration occur in the vicinity of Project Activities, caribou will be given the right of way, and activities modified if needed to confirm that migration is neither blocked nor diverted.
- Work planning will be undertaken to reduce the number of helicopter flights when large numbers of caribou are observed within the area; and
- Direct movement of equipment (including ATV, snow machines or helicopters) and people toward caribou will be avoided.

Project-related activities that create noise have the potential of creating sensory disturbances to caribou. Table 4 lists the caribou-specific sensory disturbance mitigation measures that will be implemented by pilots if caribou are observed within the Project area. These mitigation measures apply at the safety discretion of the pilots.

Table 4. List of caribou-specific aircraft avoidance measures.

Season	Number of Caribou	Avoidance Distance
Early Summer (June 5 to July 31)	Group > 250	610 m vertical 4 km horizontal
Early Summer (June 5 to July 31)	Group > 50	610 m vertical 2 km horizontal
All other seasons (August 1 to June 4)	Group > 50	300 m vertical 1 km horizontal

7.0 REPORTING AND DOCUMENTATION

All wildlife sightings will be documented, as well as wildlife interactions, observed sensitive habitat occurrences, implementation of No Activity Buffers, and activation of additional caribou mitigation measures. The Wildlife Monitor will maintain these records on site and make them available to a Land Use Inspector upon request.

8.0 REFERENCES

Canada Wildlife Act. 1985. R.S., 1985, c. W-9, s. 1; 1994, c. 23, s. 2(F)

Migratory Birds Convention Act. 1994. S.C. 1994, c. 22

Nunavut Wildlife Act. 2003. S.Nu 2003, c26

Species at Risk Act (SARA). 2002. S.C. 2002, c. 29

Nunavut Agreement. 1993

ACCWM (Advisory Committee for Cooperation on Wildlife Management). 2014. Taking Care of Caribou: the Cape Bathurst, Bluenose-West, and Bluenose-East barren-ground caribou herds management plan. Yellowknife, NT. 95 pp.

BQCMB (Beverly and Qamanirjuaq Caribou Management Board). 2014. Beverly and Qamanirjuaq Caribou Management Plan 2013-2022. Beverly and Qamanirjuaq Caribou Management Board, Stonewall, MB. 117 pp.

Canadian Heritage Rivers System. 2021. Accessed February 2021 at <http://chrs.ca/the-rivers-nunavut/>

COSEWIC. 2009. COSEWIC assessment and status report on the Eskimo Curlew *Numenius borealis* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 32 pp. Accessed January 17th, 2020 at https://sararegistry.gc.ca/virtual_sara/files/cosewic/sr_Eskimo%20Curlew_0810_e.pdf

COSEWIC. 2014. COSEWIC assessment and status report on the Red-necked Phalarope *Phalaropus lobatus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 52 pp. Accessed March 19th, 2019 at http://publications.gc.ca/collections/collection_2016/eccc/CW69-14-702-2015-eng.pdf

COSEWIC. 2016. COSEWIC assessment and status report on the Caribou *Rangifer tarandus*, Barren-ground population, in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xiii + 123 pp. Accessed March 19th, 2019 at https://wildlife-species.canada.ca/species-risk-registry/virtual_sara/files/cosewic/sr_Caribou%20Barren-ground_2016_e.pdf

COSEWIC. 2018a. COSEWIC assessment and status report on the Polar Bear *Ursus maritimus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. Xv + 113 pp. Accessed January 17th, 2020 at https://sararegistry.gc.ca/virtual_sara/files/cosewic/OursBlancPolarBear-2019-Eng.pdf

COSEWIC. 2018b. COSEWIC assessment and status report on the Peregrine falcon, *Falco peregrinus*, *pealei* subspecies - *Falco peregrinus pealei*, *anatum/tundrius* - *Falco peregrinus anatum/tundrius*, in Canada. Committee on the Status of Endangered Wildlife in Canada, Ottawa. (http://publications.gc.ca/collections/collection_2018/eccc/CW69-14-516-2018-eng.pdf)

Environment Canada. 2014. Species at Risk in the NWT: 2014. A guide to species in the NWT currently listed, or under consideration for listing, under federal and territorial species at risk legislation, 2014 edition. 88 pp. https://www.nwtspicesatrisk.ca/sites/default/files/pdf/SpeciesatRiskintheNWT_English.pdf

- Environment and Climate Change Canada. 2019. The Ecological Framework of Canada, Southern Arctic Ecozone, Takijuk Lake Upland Ecoregion. Accessed March 2019
<http://ecozones.ca/english/region/41.html>
- Government of Canada. 2018. Nesting periods website. Accessed March 2019
<https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html#ZoneN>
- Government of Canada. 2021. Migratory bird sanctuaries across Canada. Accessed February 2021 at
<https://www.canada.ca/en/environment-climate-change/services/migratory-bird-sanctuaries/locations.html>
- Government of Canada. 2020. Species at Risk Public Registry accessed February 24th, 2021 at
<https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html>
- Government of Northwest Territories. 2019. Bathurst Caribou Range Plan. Environment and Natural Resources, Government of the Northwest Territories, Yellowknife, NT. ii + 86 pp.
https://www.enr.gov.nt.ca/sites/enr/files/resources/bathurst_caribou_range_plan_2019_-_plan_pour_la_repartition_des_caribous_de_bathurst_2019.pdf
- GNWT and Government of Nunavut. 2018. Management Plan for the Dolphin and Union Caribou (*Rangifer tarandus groenlandicus x pearyi*) in the Northwest Territories and Nunavut. 107 pp. Accessed March 2019
https://www.nwtspeciesatrisk.ca/sites/default/files/dolphin_union_caribou_mgmt_plan_2018_final.pdf
- IBA Canada. 2021. Accessed February 2021 at <https://www.ibacanada.org/index.jsp?lang=en>
- Latour, P.B., J. Leger, J.E. Hines, M.L. Mallory, D.L. Mulders, H.G. Gilchrist, P.A. Smith, and D.L. Dickson. 2008. Key Migratory bird terrestrial habitat sites in the Northwest Territories and Nunavut. 3rd edition. Occasional Paper Number 114. Canadian Wildlife Service, Environment Canada. 122 pp.
http://publications.gc.ca/collections/collection_2009/ec/CW69-1-114-4E.pdf
- Lent, P.C. 1999. Muskoxen and Their Hunters. University of Oklahoma Press. 324 pp.
- Nunavut Planning Commission (NPC). 2016. Nunavut Land Use Plan. 2016 Draft.
<http://www.nunavut.ca/en/draft-plan> [Accessed March 2019]
- Poole, K.G. and A. Gunn. 2015. Mobile Caribou Conservation Measures for the Kivalliq Region, Nunavut. Draft report for Kivalliq Inuit Association. 12 November 2015.
- Species at Risk Committee. 2017. Species Status Report for Grizzly Bear (*Ursus arctos*) in the Northwest Territories. Species at Risk Committee, Yellowknife, NT. 153 pp.
- The Ramsar Sites. 2021. Accessed February 2021 at <https://www.ramsar.org/wetland/canada>

This page is intentionally blank.

APPENDIX A. Wildlife Sighting Form

This page is intentionally blank.

Example of a Wildlife Sighting Form (Should be created as an Excel spreadsheet and printed to allow enough room to record observations)

[illegible]