



Wildlife Management and Monitoring Plan

for the

Confirmation and Exploration Program

Pine Point District, Northwest Territories

Submitted to the

Minister of Environment and Natural Resources (ENR) of the
Government of the Northwest Territories (GNWT)

Purpose

This document is provided in support of the Mackenzie Valley Land and Water Board (MVLWB) Type A Land Use Permit and Type A Water Licence Application for the Pine Point Mining Limited Confirmation and Exploration Program (CEP). The intent of this document is to describe how this environmental management and monitoring plan relates to the Project and to list applicable guidelines and standards.

Version History

Pine Point Mining Limited is responsible for the distribution, maintenance, and updating of this document. Changes that do not affect the intent of the document will be made as required (e.g., phone numbers, names of individuals). The table below indicates the version of this document, and a summary of revisions made.

Version	Section(s) Revised	Description of Revision	Issue Date
1.0	-	Version for Type A Water Licence and Type A Land Use Permit Applications; submitted as Wildlife Protection Plan	17 November 2020
1.1	Sections 1, 4, 5, 6, 7, 8, Appendix C	<p>Plan name changed to Wildlife Management and Monitoring Plan.</p> <p>Updated relevant sections following public review through the application process for land use permit MV2020C0017. Refer to the Conformity Table for details on the revisions for each recommendation (Appendix A, Table A-3).</p> <p>Section 1 updated to include reference to previous wildlife studies at Pine Point.</p> <p>Updated Section 6 to include GNWT boreal caribou resource selection function modelling</p> <p>Updated Table 3 mitigations table to include new commitments</p> <p>Updated relevant sections following the Pine Point Mining Limited – Mackenzie Valley Land and Water Board Type A Water Licence and Type A Land Use Permit Applications Public Hearing held June 15 to 17th, 2021, Yellowknife NT (see also Conformity Table A-2, Appendix A)</p> <p>Updated Appendix C to add clarity on methodology for pre-clearing surveys.</p>	July 2021
2.1	Sections 2, 3, 4, 6, 7, 8, Appendix A, Appendix C	<p>Updated relevant sections and Appendix A and C following public review through the application process for land use permit MV2020C0017. Refer to the Conformity Table for details on the revisions for each recommendation (Appendix A, Table A-2).</p> <p>Added section (Section 6.4) and protocol for Whooping Crane Nest Monitoring Procedure to Appendix C following meetings with Environment and Climate Change Canada.</p>	November 2021

<p>2.2</p>		<p>Amended survey protocols in Section 6.5 and Appendix C - Whooping Crane Nesting Monitoring Procedure as per Condition 1 of the conditional approval of the WMMP so that surveys are completed between May 15 and May 31, survey transects are 1 km apart, flights will not occur below 300 m above ground level, and caribou calving locations will be avoided.</p> <p>Amended Section 6.1 and Appendix C - Caribou Monitoring Procedure so text in the protocols match those displayed in the flowcharts (Figures 1, 2 and 3 of Appendix C) and to clarify that pre-clearing surveys will occur year-round as per Condition 2 of the conditional approval of the WMMP. Figure 3 of Appendix C was updated to reflect year round pre-clearing surveys.</p> <p>Attached an updated shapefile of exploration areas of interest that includes an attribute field with the site ID labels used in Figures 3 and 4 of the WMMP, as per Condition 3 of the conditional approval of the WMMP.</p> <p>Renamed Appendix C - Wildlife Incidental Reporting Procedure to Wildlife Incident Reporting Procedure.</p> <p>Amended Appendix C - Bird Nesting and Bat Roosting Activity Procedure and Appendix C - Wildlife Incidental Reporting Procedure to include the appropriate ENR South Slave Region contact information, as per Condition 4 of the conditional approval of the WMMP.</p> <p>Added comments and responses from FRMG on Version 2.0 to Appendix A, Table A-2.</p>	<p>May 2022</p>
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Table of Contents

1.0 INTRODUCTION	1
1.1 Project Description and Setting.....	1
2.0 OBJECTIVES.....	2
3.0 STATUTORY REQUIREMENTS AND GUIDELINES.....	5
4.0 SPECIES OF CONCERN.....	8
5.0 POTENTIAL EFFECTS AND MITIGATION.....	9
6.0 MONITORING	14
6.1 Caribou Monitoring.....	14
6.2 Wildlife Sightings Monitoring.....	20
6.3 Wildlife Surveillance Monitoring.....	20
6.4 Bird Nesting and Bat Roosting Monitoring.....	20
6.5 Whooping Crane Monitoring	21
6.6 Pre-Clearing Monitoring	22
6.7 Wildlife Incident Reporting.....	22
7.0 REPORTING.....	23
7.1 Weekly and Monthly Reporting	23
7.2 Annual Reporting	23
8.0 ROLES AND RESPONSIBILITIES.....	24
9.0 REFERENCES.....	26

LIST OF TABLES

Table 1: Concordance Table for Conformity of the Wildlife Management and Monitoring Plan to Federal and Territorial Acts, Regulations, and Guidelines	6
Table 2: Wildlife Species of Concern that may Interact with the Project.....	9
Table 3: Potential Project-Wildlife Interactions and Mitigation during Project Construction and Operation.	11
Table 4: Cautionary Zones and Search Zones Around Exploration Sites and Resulting Mitigation During Boreal Caribou Seasons.....	19

LIST OF FIGURES

Figure 1: Project Location3

Figure 2: Pine Point Mining Ltd. 2021 to 2023 greenfield and brownfield exploration areas and existing disturbances4

Figure 3: Pine Point Mining Ltd. 2021 to 2023 greenfield and brownfield exploration areas, greenfield exploration areas of concern, and Pine Point boreal caribou satellite collar locations 16

Figure 4: Areas of interest for exploration and boreal caribou Resource Selection Function..... 17

LIST OF APPENDICES

Appendix A: Conformity Table for Wildlife Protection Plan Version 1.1

Appendix B: Statutory Requirements

Appendix C: Protocols and Datasheets

Abbreviations and Units of Measure

Abbreviation	Definition
ATV	all-terrain vehicle
CEP	Confirmation and Exploration Program
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
ECCC	Environment and Climate Change Canada
GNWT	Government of the Northwest Territories
GNWT-ENR	Government of the Northwest Territories, Environment and Natural Resources
MVLWB	Mackenzie Valley Land and Water Board
NWT	Northwest Territories
PPML	Pine Point Mining Limited
SARC	Species at Risk Committee

Units of Measure

Abbreviation	Definition
°C	degrees Celsius
km	kilometre
m	metre
mm	millimetre

1.0 Introduction

Pine Point Mining Limited (PPML), a wholly owned subsidiary of Osisko Metals Inc., is investigating the historical Pine Point Mine area with the objective of recommencing mining of lead and zinc deposits in the area. The Project consists of a proposed Confirmation and Exploration Program (CEP) consisting of exploration core drilling, bedrock sampling, geotechnical and delineation core drilling, groundwater pumping, test pitting and water sampling program at the Pine Point Property. The property is a previously explored area and is located between 42 km and 110 km from Hay River, Northwest Territories (NWT) (Figures 1 and 2). The Project could affect wildlife and wildlife habitat in several ways, including habitat degradation and functional habitat loss due to noise or other sensory disturbances, dust, accidental spills of toxic or hazardous substances, injury or mortality due to vehicle collisions, and wildlife attraction to construction camps.

The Minister of Environment and Natural Resources determined, based on information provided with the Confirmation and Exploration Program Type A Water Licence Application, discussions at the MVLWB's Technical Session held February 24-25, 2021, PPML's responses to information requests and the Memorandum submitted to ENR by PPML on March 19, 2021, that, in accordance with the Wildlife Act, Section 3.1.1 of the Wildlife Process and Content Guidelines, the project will require a Wildlife Management and Monitoring Plan (WMMP)

This Wildlife Management and Monitoring Plan outlines mitigation that will be implemented to reduce the Project effects on wildlife and wildlife habitat, and the monitoring actions proposed to understand the effects of the Project on wildlife and inform adaptive management.

This Wildlife Management and Monitoring Plan has been developed during the Mackenzie Valley Land and Water Board (MVLWB) Land Use Permit and Water Licence Application process. This Wildlife Management and Monitoring Plan incorporates relevant feedback and commitments made by PPML during the MVLWB Land Use Permit and Water Licence application process, including review comments from previous versions (Appendix A Conformity Tables). The Wildlife Management and Monitoring Plan for the Project will be reviewed annually and updated as required.

1.1 Project Description and Setting

The Project is a brownfield exploration program located on the historical Cominco Ltd. Pine Point Mine site, which was in operation from 1964 to 1988. A CEP is proposed that will collect samples and information to be used to support initial design work for a feasibility study and for detailed engineering of mining, processing, and infrastructure requirements for construction and operation of a mine. The CEP will consist of a continuation of drilling of the known mineral deposits, exploration core drilling, geotechnical investigations, metallurgical sampling and testing, and groundwater testing. In addition to the exploration activities, the Project will include two camp facilities, a sewage treatment plant, and an explosives storage area.

The closest major transportation hubs are Edmonton and Hay River. Access to the Project is presently via all-weather Highways 5 and 6. On-site access is primarily via existing roads and trails that can be accessed from the public highway. Further details are provided in the Project Description (PPML Confirmation and Exploration Program Project Description).

Land use in the area includes hunting, trapping, fishing, camping and timber harvesting (Rescan 2012a). The Project is located within the Taiga Plains Mid-Boreal ecoregion (ECG 2009). Topography is gently undulating with three major hill systems (Cameron Hills, Trout Upland, and Horn Plateau). Characterization of the environment in this ecoregion includes a cold boreal climate (mean annual temperature -2.0°C to 5.5°C (ECG 2009). Conditions are wet (mean annual precipitation 310 to 410 mm) in low-lying poorly drained areas which retard organic matter decomposition. Peatlands of varying thickness occur over extensive areas as patterned and horizontal fens, treed bogs, and peat plateaus (the latter on permanently frozen organic soils) (ECG 2009). On better-drained upland sites, the interplay of parent materials and active processes such as fire and alluvial deposition results in a mix of deciduous, mixed-wood, and coniferous forests (ECG 2009). Broad scale vegetation includes mixed-wood, deciduous, and coniferous forest fens with black spruce, larch, and dwarf birch; sedges and mosses are widespread, and peat plateaus (complexes of open, stunted black spruce – lichen forest and wet sedge – moss dominated collapse scars) are common (ECG 2009).

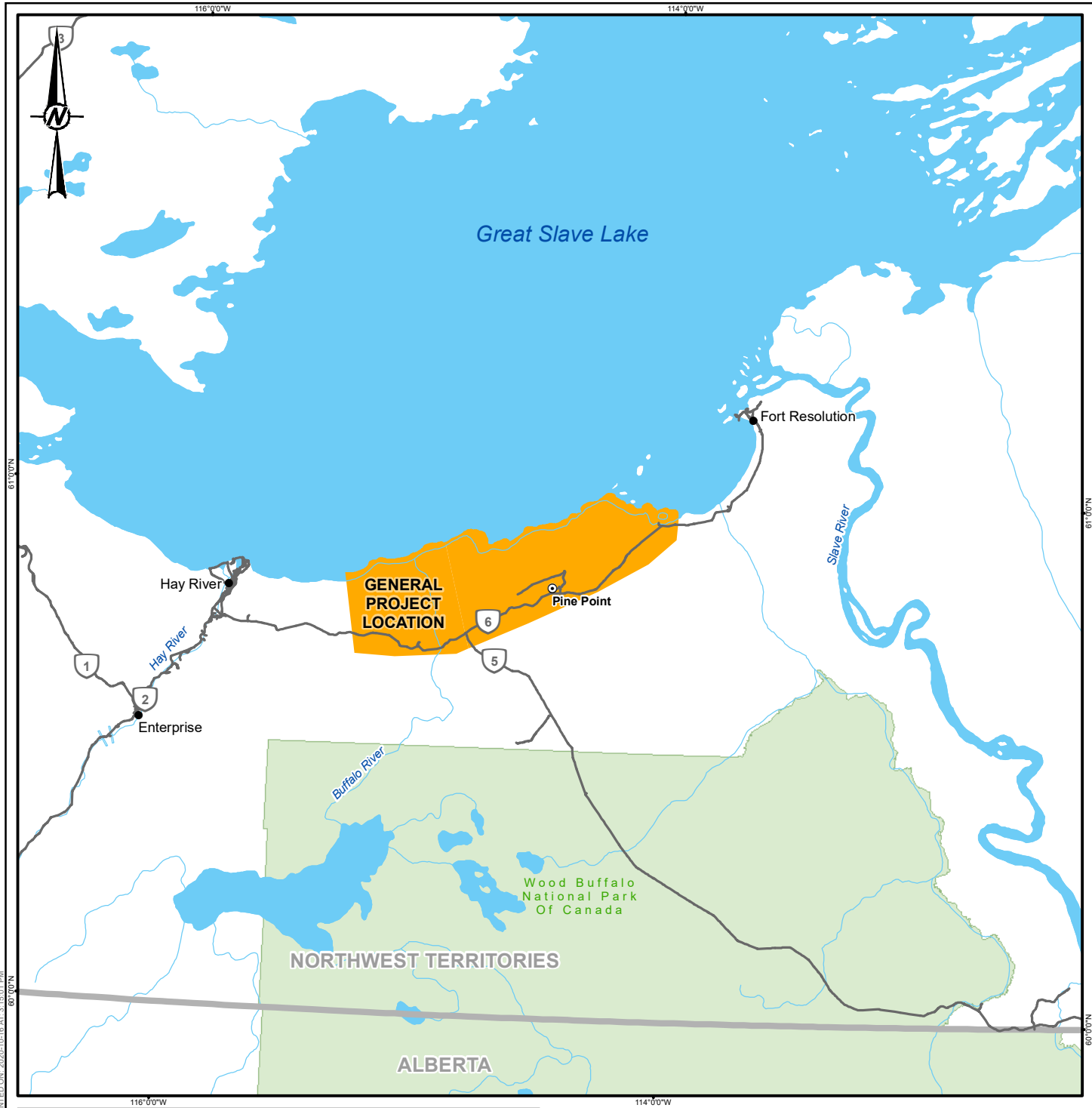
Previous wildlife studies at Pine Point include the following:

- Deployment of remote cameras and automated recording units to detect mammals, migratory birds and bats, and development of resource selection function models for anticipated valued component species (Golder 2018).
 - Field surveys for wildlife sign, owls, migratory birds, amphibians, and an ecological landscape classification within a study area west of the Buffalo River (EBA 2005, 2006).
 - Field surveys for avian communities (landbirds, raptors, waterbirds) and amphibians and deployment of remote cameras within a focused study area between Twin Creek and the Buffalo River (Rescan 2012b) and at N-204 (near Resolution Bay, Rescan 2011).

2.0 Objectives

The objectives of this Wildlife Management and Monitoring Plan include the following:

- Document how mitigation will be applied to avoid or minimize effects of the exploration activities on wildlife.
- Describe how adaptive management will be applied to wildlife mitigation and monitoring.
- Describe how potential impacts will be monitored and how mitigative actions will be applied based on the results of monitoring.
- Form part of the engagement process related to the confirmation and exploration activities with communities, regulatory agencies, and interested parties in wildlife effects mitigation and monitoring.
- Describe how PPML will meet relevant guidelines and regulatory requirements.



LEGEND

- FORMER PINE POINT TOWN SITE
- POPULATED PLACE
- ALL-SEASON ROAD
- PARK/PROTECTED AREA
- WATERBODY
- GENERAL PROJECT LOCATION



REFERENCE(S)

1. BASE DATA OBTAINED FROM GEOGRATIS, © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
 2. PARKS AND PROTECTED AREAS OBTAINED FROM CONSERVATION AREAS REPORTING AND TRACKING SYSTEM (CATS), CANADIAN COUNCIL ON ECOLOGICAL AREAS, 2017.
- PROJECTION: ALBERS CONIC EQUAL AREA

CLIENT
PINE POINT MINING LTD.

PROJECT
PINE POINT CONFIRMATION AND EXPLORATION PROGRAM

CONSULTANT



YYYY-MM-DD	2020-10-16
DESIGNED	DC
PREPARED	BW / MM / JE
REVIEWED	DP
APPROVED	DP

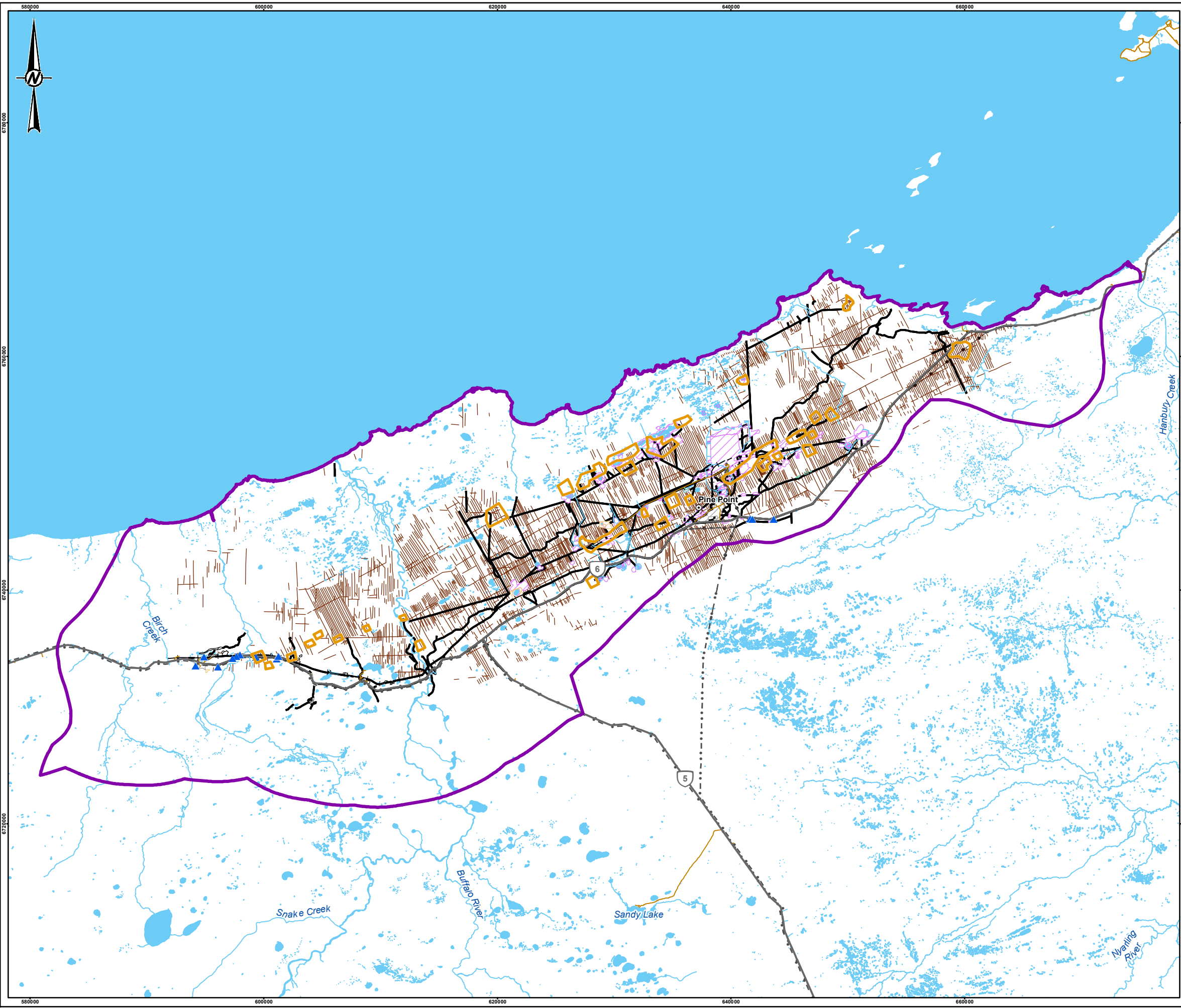
TITLE

PROJECT LOCATION

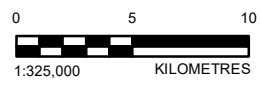
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- LEGEND**
- FORMER PINE POINT TOWN SITE
 - ▲ WELLSITE
 - HIGHWAY
 - LOCAL ROAD
 - TRANSPORTATION_CANVEC_RAILROAD
 - TRANSMISSION LINE
 - WATERCOURSE
 - EXPLORATION AREA
 - ▭ REGIONAL STUDY AREA - TERRESTRIAL
 - WATERBODY
- EXISTING LINEAR DISTURBANCE**
- POWERLINE
 - ROAD
 - CUTLINE
- EXISTING DISTURBANCE**
- ▨ CUTBLOCK
 - ▨ MINING
 - ▨ ROAD MAINTENANCE
 - ▨ SETTLEMENT
 - ▨ UNKNOWN



REFERENCE(S)
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 PROJECTION: UTM ZONE 11N DATUM: NAD83

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PROJECT
 PINE POINT PROJECT

TITLE
2021 - 2023 EXPLORATION AREAS AND EXISTING DISTURBANCES

CONSULTANT	YYYY-MM-DD	2021-06-02
DESIGNED	MB	
PREPARED	MM	
REVIEWED	VM	
APPROVED	PB	

PROJECT NO. 19125747 CONTROL REV. 0 FIGURE 2

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3.0 Statutory Requirements and Guidelines

Several federal and territorial acts and regulations apply to wildlife in relation to the Project (Table 1 and Appendix B). Other guidelines and documents that were considered in the preparation of this document include the following:

- Wildlife Management and Monitoring Plan Guidelines (GNWT 2021a).
- Northern Land Use Guidelines: Camp and Support Facilities (GNWT-Lands 2015a).
- Northern Land Use Guidelines: Pits and Quarries (GNWT-Lands 2015b).
- Northern Land Use Guidelines: Access Roads and Trails (GNWT-Lands 2015c).
- Forest Fire Prevention and Suppression Guidelines for Industrial Activities (GNWT 2001).
- Environmental Management Plans for the CEP.

Table 1: Concordance Table for Conformity of the Wildlife Management and Monitoring Plan to Federal and Territorial Acts, Regulations, and Guidelines

Legislation/Regulation	Requirements	Section in the Wildlife Management and Monitoring Plan	Responsible Regulatory Agency
<i>Species at Risk Act (SARA)</i>	Adhere to requirements of all applicable Regulations or Recovery Plans that may be developed over the duration of the Project. SARA prohibits the killing, harming or harassing of Species at Risk (Threatened or Endangered species), prohibits the damage and destruction of residences of Species at Risk and prohibits the destruction of critical habitat of Species at Risk.	Sections 4.0, 5.0, 6.0, 7.0 Appendix B	ECCC-CWS
<i>Species at Risk (NWT) Act</i>	Adhere to requirements of all applicable Regulations or Recovery Plans that may be developed over the duration of the Project.	Sections 4.0, 5.0, 6.0, 7.0 Appendix B	ECCC-CWS
<i>Species at Risk Act Section 32(1)</i>	No person shall kill, harm, harass, capture or take an individual of a wildlife species that is listed as an extirpated species, an endangered species or a threatened species.	Section 6.2 Section 6.4 Section 6.5	ECCC-CWS
<i>Species at Risk Act Section 33</i>	No person shall damage or destroy the residence of one or more individuals of a wildlife species that is listed as an endangered species or a threatened species, or that is listed as an extirpated species if a recovery strategy has recommended the reintroduction of the species into the wild in Canada.	Section 6.2 Section 6.4	ECCC-CWS
<i>NWT Wildlife Act Section 95(1)</i>	A developer or other person or body may be required, in accordance with the regulations, to prepare a wildlife management and monitoring plan for approval by the Minister, and to adhere to the approved plan, if the Minister is satisfied that a development, proposed development, or other activity is likely to: <ul style="list-style-type: none"> (a) result in a significant disturbance to big game or other prescribed wildlife; (b) substantially alter, damage or destroy habitat; (c) pose a threat of serious harm to wildlife or habitat; or (d) significantly contribute to cumulative impacts on a large number of big game or other prescribed wildlife, or on habitat. 	Entire document	GNWT-ENR
<i>NWT Wildlife Act Section 95(1)</i>	A wildlife management and monitoring plan must include: <ul style="list-style-type: none"> (a) a description of potential disturbance to big game and other prescribed wildlife, potential harm to wildlife and potential impacts on habitat; (b) a description of measures to be implemented for the mitigation of potential impacts; (c) the process for monitoring impacts and assessing whether mitigative measures are effective; and (d) other prescribed requirements. 	Section 5.0 Section 6.0	GNWT-ENR

Table 1: Concordance Table for Conformity of the Wildlife Management and Monitoring Plan to Federal and Territorial Acts, Regulations, and Guidelines

Legislation/Regulation	Requirements	Section in the Wildlife Management and Monitoring Plan	Responsible Regulatory Agency
<p><i>Migratory Birds Convention Act, 1994 (MBCA) and Migratory Birds Regulations</i></p>	<p>Prohibits intentional and unintentional (incidental take) (Section 5 and Section 6 of MBCA 1994) including:</p> <ul style="list-style-type: none"> • Harming • Killing • Disturbance or destruction of migratory birds, nests and their eggs <p>The taking of nests or eggs of migratory game or insectivorous or nongame birds shall be prohibited, except for scientific or propagating purposes under such laws or regulations as the High Contracting Powers may severally deem appropriate.</p> <p>No person shall hunt except under authority of a migratory game bird hunting permit</p>	<p>Section 5.0 Section 6.0</p>	<p>ECCC-CWS</p>
<p><i>Mackenzie Valley Land Use Regulations</i></p>	<p>Land use permits may include provisions for the protection of wildlife habitat.</p>	<p>Entire document</p>	<p>MVLWB GNWT – Lands</p>

ECCC-CWS = Environment and Climate Change Canada, Canadian Wildlife Service; GNWT = Government of the Northwest Territories; GNWT-ENR = Government of the Northwest Territories, Environment and Natural Resources; MVLWB = Mackenzie Valley Land and Water Board. See Appendix B for details on relevant sections of the legislation/regulations.

4.0 Species of Concern

The intent of the *Species at Risk Act* and the *Species at Risk (NWT) Act* is to protect species at risk from becoming extirpated or extinct as a result of human activity. While the former was enacted by the Government of Canada, the latter was enacted by the Government of the Northwest Territories (GNWT) and applies only to wild animals and plants managed by the GNWT (*Species at Risk (NWT) Act*). For example, species managed by the federal *Migratory Birds Convention Act, 1994* are not covered by the *Species at Risk (NWT) Act*. For the purposes of this Wildlife Management and Monitoring Plan, species may be of concern as a result of either their federal, territorial, or Committee on Status of Endangered Wildlife in Canada (COSEWIC) status. As the *Species at Risk (NWT) Act* is implemented, it is expected that the NWT Species at Risk Committee (NWT SARC) will make further assessments, and the Conference of Management Authorities will prepare the List of Species at Risk, providing legal protection for these species. This could lead to changes to species of concern for the Project.

Species of concern were identified that are known to be, or are expected to be, in the area of the historic Pine Point Mine and could potentially interact with the Project (Table 2). The species of concern list has been developed based on review of previous studies and applications completed within the Project area (EBA 2005; Tamerlane 2006; Rescan 2012a, 2012b), surveys completed specific to these species by PPML (Golder 2018) and referrals by Environment and Climate Change Canada (ECCC) regarding species at risk (whooping crane, peregrine falcon, boreal caribou and wood bison in particular). Species at risk have been listed that have distributions that overlap the Project area. ECCC has issued Species at Risk Recovery Plans for seven of the species of concern: caribou (boreal population) (*Rangifer tarandus caribou*), wood bison (*Bison bison athabascae*), little brown myotis (*Myotis lucifugus*), northern myotis (*Myotis septentrionalis*), common nighthawk (*Chordeiles minor*), olive-sided flycatcher (*Contopus cooperi*) and whooping crane (*Grus americana*) (Environment Canada 2007, 2016a, b; ECCC 2018a, b, 2019). Critical habitat has been defined for caribou (boreal population) (SOR/2019-188). The Project area overlaps potential nesting habitat for whooping cranes, as defined by Olsen and Olsen (2003).

ECCC has also issued Species at Risk Management Plans for two of the species of concern: rusty blackbird (*Euphagus carolinus*) and yellow rail (*Coturnicops noveboracensis*) (Environment Canada 2013, 2015). Yellow rail has not yet been detected at Pine Point, despite dedicated surveys (Golder 2018).

Additional species of concern were identified as culturally important species to First Nations groups. These included moose (*Alces alces*), marten (*Martes americana*), beaver (*Castor canadensis*), muskrat (*Ondatra zibethicus*), and ptarmigan (*Lagopus lagopus*, *L. muta*).

Table 2: Wildlife Species of Concern that may Interact with the Project

Species	NWT Species at Risk Committee Status ^(a)	Listed under the <i>Species at Risk (NWT) Act</i> (yes/no)? ^(a)	Federal <i>Species at Risk Act</i> Schedule 1 Status ^(b)	Committee on the Status of Endangered Wildlife in Canada Status ^(c)	Observed at Pine Point?
Mammals					
Caribou (boreal population)	Threatened	Yes	Threatened	Threatened	Yes
Wood bison	Threatened	Yes	Threatened	Special Concern	Yes
Wolverine	Not at Risk	No	Special Concern	Special Concern	Yes
Little brown myotis	Special Concern	Yes	Endangered	Endangered	Yes
Northern myotis	Special Concern	Yes	Endangered	Endangered	Yes
Birds					
Bank swallow	Not applicable	Not applicable	Threatened	Threatened	Yes
Barn swallow	Not applicable	Not applicable	Threatened	Threatened	No
Common nighthawk	Not applicable	Not applicable	Special Concern	Special Concern	Yes
Evening grosbeak	Not applicable	Not applicable	Special Concern	Special Concern	No
Harris's sparrow	Not applicable	Not applicable	Pending ^(d)	Special Concern	No
Horned grebe (western population)	Not applicable	Not applicable	Special Concern	Special Concern	Yes
Lesser yellowlegs	Not applicable	Not applicable	Pending ^(d)	Threatened	No
Olive-sided flycatcher	Not applicable	Not applicable	Special Concern	Special Concern	Yes
Red-necked phalarope	Not applicable	Not applicable	Special Concern	Special Concern	No
Rusty blackbird	Not applicable	Not applicable	Special Concern	Special Concern	Yes
Short-eared owl	Not assessed	No	Special Concern	Threatened	No
Whooping crane	Not applicable	Not applicable	Endangered	Endangered	Yes
Yellow rail	Not applicable	Not applicable	Special Concern	Special Concern	No
Arthropods					
Gypsy cuckoo bumble bee	Data Deficient	No	Endangered	Endangered	No
Suckley's cuckoo bumble bee	Not assessed	No	Pending ^(d)	Threatened	No
Traverse lady beetle	Not assessed	No	Special Concern	Special Concern	No
Yellow-banded bumble bee	Not at Risk	No	Special Concern	Special Concern	No

(a) GNWT (2021b)

(b) Government of Canada (2021)

(c) COSEWIC (2021)

(d) Under consideration for addition to Schedule 1; Government of Canada (2021)

(e) Under consideration for status change; Government of Canada (2021)

5.0 Potential Effects and Mitigation

A preliminary list of potential effects to wildlife from the Project is presented in Table 3. Main concerns to wildlife are the following:

- Direct habitat loss.
- Indirect habitat loss.
- Wildlife mortality or injury.

Direct habitat loss refers to the disturbance and immediate loss of wildlife habitat within the Project physical footprint, for example, from construction of a mobile camp facility.

Indirect habitat loss describes changes to wildlife movement and behaviour due to the Project activities (such as the noise from exploration activities, odours, and human presence). Indirect habitat loss can occur even where vegetation and other habitat features remain intact. These changes are typically negative, causing wildlife avoidance, but can also be positive for species that are attracted to camps.

Wildlife mortality or injury can result from collisions with vehicles or removal of problem wildlife to protect worker safety.

Mitigation, design features, policies, and procedures or guidelines that are expected to be followed to avoid, minimize, or offset potential effects of the Project are also presented in Table 3. The mitigation considers current practices at the Ekati and Gahcho Kué diamond mines and the Tłı̄chǝ All-Season Road and are considered to be effective (De Beers 2014; DDEC 2016; GNWT 2019).

Table 3: Potential Project-Wildlife Interactions and Mitigation during Project Construction and Operation.

Project Component	Potential Effects Pathways	Mitigation ¹
Site preparation	Direct habitat loss and fragmentation from the Project footprint (e.g., mobile camp).	<ul style="list-style-type: none"> • Project located in primarily a brownfield site to reduce potential for additional habitat loss. Project activities will preferentially select previously disturbed areas where natural revegetation is limited and where no vegetation clearing is required. It is anticipated that approximately 90% of the proposed activities will be on previously disturbed land. • Project will be completed primarily under frozen ground conditions, or dry conditions to minimize impact to soils. Low impact exploration methods with no grubbing and vegetation cut to maintain root structure with soils replaced on exploration sites to encourage natural revegetation establishment. • Overland portion of winter roads will be constructed and maintained with a minimum of 10 cm of packed snow and/or ice at all times. • Work sites will be prepared in such a manner as to prevent rutting of the ground surface. Suspend overland travel of equipment or vehicles at the first sign of rutting. • Progressive Reclamation of disturbed areas that are not expected to have further disturbance will be completed as soon as it is practical to do so.
Infrastructure development Exploration activities Fleet movement Waste disposal Water management	Project activities leading to air emissions (including dust), which may affect vegetation communities and thereby alter the abundance, distribution, survival, and reproduction of wildlife.	<ul style="list-style-type: none"> • Fugitive particulate emissions will be controlled through best management practices. • Project equipment will be limited to occasional pickup trucks, which is similar to existing recreational vehicle use. • PPML vehicles will be limited to 30 km/h on access roads and 60 km/h on haul roads. • Project work will favour frozen ground conditions to minimize dust. • Dust suppression has been included in the Water Withdrawal Plan for road watering to minimize road dust as needed. • Roads will be inspected visually to determine if dust suppression needs to be applied and if dust suppression is being implemented effectively.
	Vegetation clearing leading to destruction of migratory bird nests.	<ul style="list-style-type: none"> • Vegetation will be cleared outside of critical (nesting) periods for migratory birds whenever possible. • Project activities that require clearing of vegetation will require additional wildlife surveys to confirm the absence of large mammals and nesting birds before proceeding.
	Sensory disturbance leading to changes in wildlife habitat quality and survival and reproduction.	<ul style="list-style-type: none"> • Project noise will be managed through use of conventional and best practice methods on components and equipment, including regular maintenance where required. • Project activities will be scheduled to occur outside of critical (nesting) periods for migratory birds and calving periods for caribou, bison and other wildlife, to the extent possible. • Project activities that require clearing of vegetation will require additional wildlife surveys to confirm the absence of large mammals and nesting birds before proceeding.

Table 3: Potential Project-Wildlife Interactions and Mitigation during Project Construction and Operation.

Project Component	Potential Effects Pathways	Mitigation ¹
	Increased traffic leading to collisions with wildlife.	<ul style="list-style-type: none"> • Wildlife will be provided with right-of-way on Project roads. • PPML vehicles will be limited to 30 km/h on access roads and 60 km/h on haul roads.
	Changes to hydrology and water quality of surface water systems, which may alter the abundance, distribution, and survival and reproduction of wildlife.	<ul style="list-style-type: none"> • Drilling operations or construction of an adit or drill site will not occur within 100 metres (m) of the Ordinary High-Water Mark of any watercourse. Similarly, all access routes to be constructed parallel to any watercourse will be a minimum of 100 m from the Ordinary High-Water Mark, except at crossings. • Access routes to select the best location for crossing streams and avoiding terrain obstacles. • Project activities shall not cause obstruction to any natural drainage. • Waterbodies will be crossed by constructing level surfaces using snow-fills, ice bridges or temporary bridges. • No permanent structures will be constructed across water courses. • Erosion and sediment will be controlled through best management practices (e.g., ground cover, silt fences or curtains, and runoff management) where needed. • Sewage and domestic water generated from the camp and other infrastructure will be managed according to the Water Licence. • The Project will adhere to the to the Water Withdrawal Plan for all water use. • Existing infrastructure will be used as much as possible, such as the existing camp facility.
	Hazardous substance spills leading to changes to health or mortality of individual animals.	<ul style="list-style-type: none"> • The Spill Contingency Plan will be implemented. • All spills of reportable quantities will be reported immediately to the 24-hour spill line according to the <i>NWT Spill Contingency Planning and Reporting Regulations</i>.

Table 3: Potential Project-Wildlife Interactions and Mitigation during Project Construction and Operation.

Project Component	Potential Effects Pathways	Mitigation ¹
	Improved access leading to increased predation or harvesting of wildlife.	<ul style="list-style-type: none"> • Project will use of existing infrastructure such as highways 5 and 6, site roads, and existing cutlines to reduce new disturbances where practicable. • Employees will be provided with wildlife awareness training and development and enforcement of a “no harassment, hunting, trapping, harvesting, or fishing policy” for employees and contractors. All staff and contractors will be made aware of the potential presence of caribou, whooping cranes and other species at risk in the area, their conservation status and reporting procedures. • The Project will leave a buffer strip of undisturbed vegetation at least 30 m in width between cleared areas and public roads. • Barriers will be constructed at new access roads at the intersection with public roads as per the Northern Land Use Guidelines for access roads and trails (GNWT-Lands 2015c). • Vegetation may be cleared by hand using power tools or by using heavy equipment such as a dozer, grader and loader or similar equipment pieces. Felled trees will be bucked and placed on the ground near the access trail to be subsequently spread back over the access trail to reduce human and predator movement (Golder 2015). • The use of mulchers to clear new access roads provide organic material that will be spread on disturbed areas to encourage vegetation growth (PPML 2020b).
	Attraction to camps leading to problem wildlife and injury or mortality to individual animals.	<ul style="list-style-type: none"> • Littering and feeding of wildlife will be prohibited. • The Waste Management Plan will be adhered to, and updated as required to reflect conditions and Project activities.

(1) Adapted mitigation from PPML. 2020a. Draft Conditions Annexed to and Forming Part of Land Use Permit for Exploration and Advanced Exploration at the Pine Point Mine. Available at: MV2020C0017 - PPML - Draft Permit Conditions - Nov27_20.pdf (mvlwb.ca)

NWT = Northwest Territories

6.0 Monitoring

The monitoring for the Project is expected to include the following:

- Caribou Monitoring.
- Wildlife Sightings Monitoring.
- Wildlife Surveillance Monitoring.
- Bird Nesting and Bat Roosting Monitoring.
- Whooping Crane Monitoring.
- Pre-clearing Monitoring.
- Wildlife Incident Reporting.

Details of the monitoring are described below. Work instructions and data sheets are provided in Appendix C.

6.1 Caribou Monitoring

6.1.1 Methods

6.1.1.1 *Caribou Seasonal Periods*

Although boreal caribou may be sensitive to disturbance from exploration activities throughout the year, GWNT-ENR considers there to be two key periods when boreal caribou should receive additional protection from sensory disturbance to increase the likelihood of successful calving and thus recruitment of new individuals into the population. The following sensitive periods are based on the seasonal activity periods reported in Table 6 in the Status Report for Boreal Caribou in the NWT (Species at Risk Committee 2012), but some year-to-year variation should be expected based on snow and weather conditions:

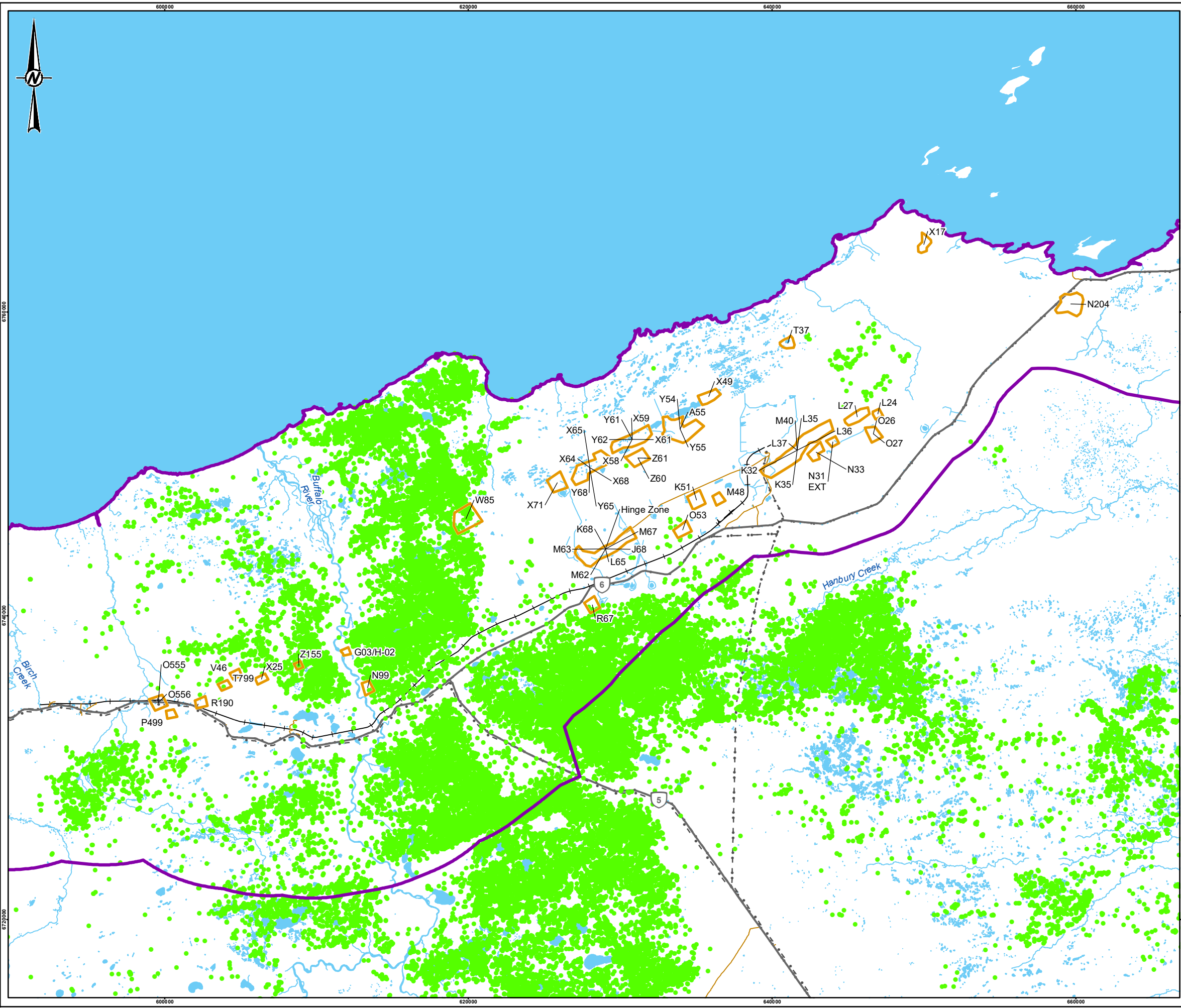
- Late-winter (16 March – 04 April): Boreal caribou are exhibiting their shortest daily movements at this time of year, likely reflecting the increased energetic costs of travelling through deep snow or limited areas that provide easier access for foraging on ground lichens (e.g., wind-swept areas and closed canopy forests with shallow snow). As boreal caribou are depleting their stores of fat throughout the winter, and movement through deep snow or displacement from good foraging habitat could have high energetic costs, disturbance events at this time of year could have negative impacts on female body condition and, subsequently, calf survival.
- Calving/Post Calving (05 April – 15 July): Female boreal caribou spread out during the pre-calving period (05-30 April) and increase daily movements to find suitable calving locations. Once a calving location is selected, daily movement rates drop considerably during calving (30 April – 06 June). During the calving period, sensory disturbances that may cause energetic stress to the calving

female or cause the calving female to flee and leave her calf temporarily, which may reduce the probability of calf survival. Caribou tend to avoid suitable calving locations that are close to sensory disturbance from development (Carr et al. 2007; Schaefer and Mahoney 2007; Vors et al. 2007; Vistnes and Nellemann 2008), so they may avoid calving close to active exploration activities. However, in instances where exploration activities may advance upon or be close to an area where a female has chosen to calve, displacement of the female from that area could have negative impacts on calf survival. Calves appear to be most vulnerable to predation during the first six weeks after birth (Pinard et al. 2012), therefore the calving season includes the period up to 15 July (i.e., to address the case that calves are born as late as 30 May).

Boreal caribou are considered less sensitive to sensory disturbance at other times of the year, as they are moving greater distances on a daily basis and will likely avoid active exploration areas or move away from them quickly if they encounter them.

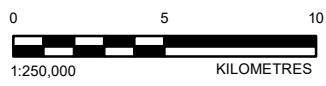
6.1.1.2 Areas of Interest for Exploration

Most of the areas that will be explored by PPML will be within the highly disturbed areas of PPML leases (Figure 2) that are avoided by the Pine Point boreal caribou herd (as indicated by 2015 to 2020 satellite collar data) (Figure 3). However, there are some exploration areas that are in less disturbed areas and have potential for boreal caribou occurrence (Areas W85 and Z155 as shown on Figure 3). Resource Selection Function (RSF) models developed by DeMars et al. (2020) for the NT1 boreal caribou range were acquired from Government of the Northwest Territories, Environment and Natural Resources (GNWT-ENR 2021) and reviewed within the spatial scale of the Regional Study Area. Caribou demonstrated selection (i.e., RSF binned score of 6 or higher) of habitat in the lease area in both the seasonal activity and the year-round RSF models, however most of the exploration areas were ranked low in likelihood of selection (Figure 4).



LEGEND

- CARIBOU COLLAR LOCATION - PINE POINT HERD
- HIGHWAY
- LOCAL ROAD
- RAILROAD CORRIDOR
- · · TRANSMISSION LINE
- WATERCOURSE
- EXPLORATION AREA
- ▭ REGIONAL STUDY AREA - TERRESTRIAL
- WATERBODY



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 PROJECTION: UTM ZONE 11N DATUM: NAD83

CLIENT
PINE POINT MINING LTD.

PROJECT
PINE POINT PROJECT

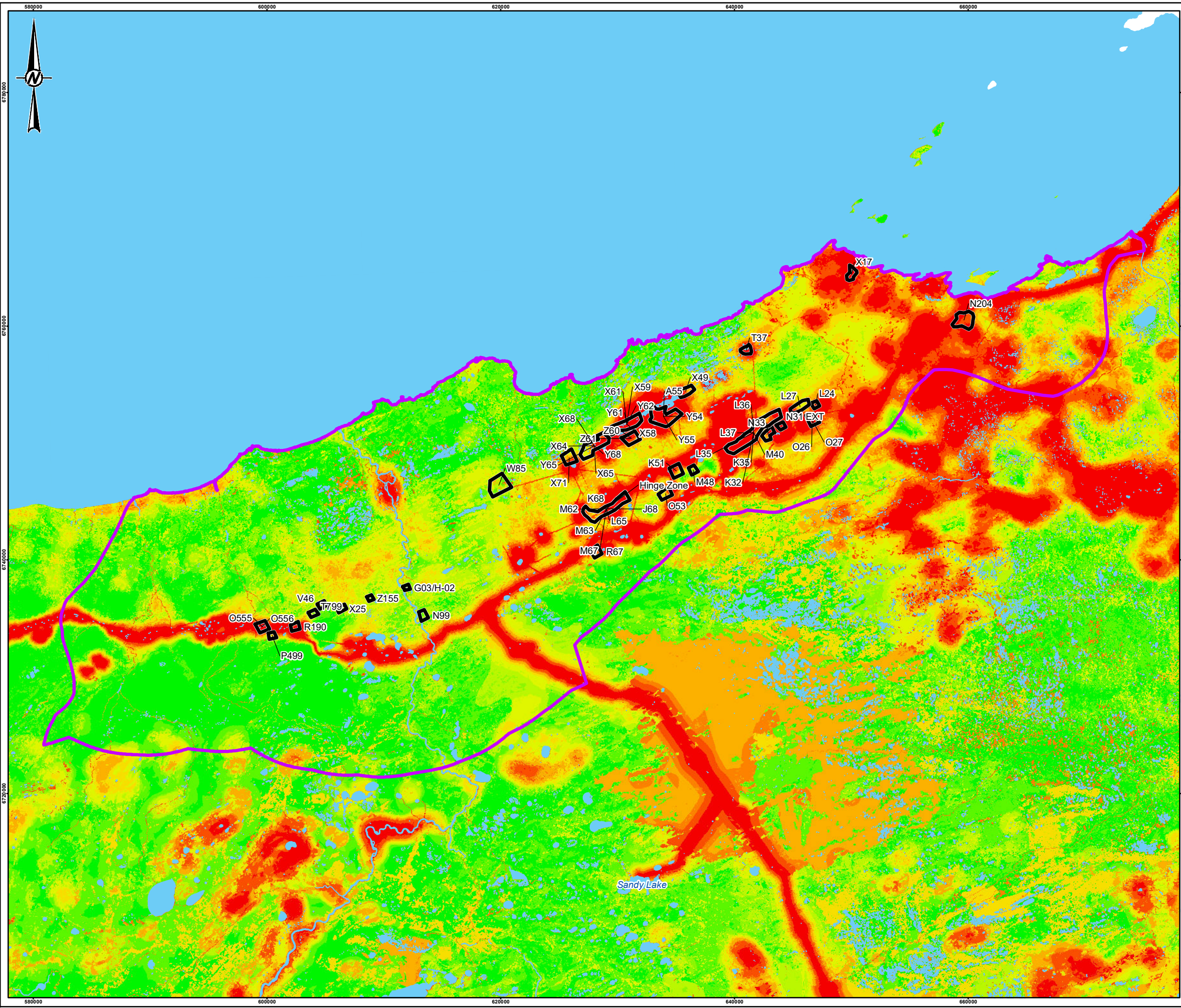
TITLE
EXPLORATION AREAS FOR 2021 TO 2023 AND BOREAL CARIBOU SATELLITE COLLAR LOCATIONS

CONSULTANT	YYYY-MM-DD	2021-11-19
	DESIGNED	LD
	PREPARED	MM
	REVIEWED	VM
	APPROVED	PB

PROJECT NO. CONTROL REV. FIGURE
 19125747 0 3

PATH: I:\2019\19125747\MapInfo\Production\19125747_Caribou_Activity_ExplorationArea_Rev1.mxd PRINTED ON: 2021-11-19 AT: 4:59:01 PM
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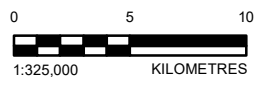


LEGEND

- EXPLORATION AREA
- REGIONAL STUDY AREA - TERRESTRIAL
- WATERBODY

Value

- 1 (LOW)
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 (HIGH)



NOTE(S)
 *BOREAL CARIBOU PREDICTIVE ANNUAL RESOURCE SELECTION FUNCTION RASTER, CURRENT TO FALL 2019

REFERENCE(S)
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CLIENT
 PINE POINT MINING LTD.

PROJECT
 PINE POINT PROJECT

TITLE
EXPLORATION AREAS FOR 2021 TO 2023 AND BOREAL CARIBOU RESOURCE SELECTION FUNCTION

CONSULTANT	YYYY-MM-DD	2021-11-19
	DESIGNED	DP
	PREPARED	MM
	REVIEWED	VM
	APPROVED	PB

PROJECT NO. CONTROL REV. FIGURE
 19125747 1 4

PATH: I:\30119\19125747\Mapping\Production\19125747_Caribou_RSFC_ExplorationAreas_Report.mxd PRINTED ON: 2021-11-19 AT: 4:57:50 PM
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6.1.1.3 *Use of Caribou Collar Location Maps to Guide Activity*

PPML has requested that the GNWT-ENR provide caribou satellite collar location data every two days during the late winter and calving seasons (16 March to 15 July). PPML will regularly inform ENR of where operations are currently occurring and planned to occur during that period. PPML will provide updated information weekly during late winter and calving periods, and monthly during other times of year. PPML will only consider commencing exploration, blasting, and other disturbance activities if satellite collar data and/or pre-clearing surveys indicates that there are no caribou within pre-defined “Cautionary Zones” around sites of the exploration activity (Table 4). These Cautionary Zones are pre-defined spatial buffer areas around exploration sites that will:

- Reduce sensory disturbance and unnecessary energy expenditure by caribou during the most sensitive periods (i.e., late-winter and calving);
- Avoid sensory disturbance that would reduce the likelihood of calf survival during the calving period; and,
- Avoid injury or mortality of caribou.

Cautionary Zones for sensitive and less sensitive periods for caribou are presented in Table 4.

Ground-based pre-clearing surveys will be completed during all periods and will supplement caribou collar data during the late-winter and calving sensitive time periods for caribou (Section 6.5 and Appendix C).

During the late winter sensitive period, if caribou collar locations are within a Cautionary Zone, entry to new exploration sites (e.g., drilling, pitting or blasting) or entry to sites that have been dormant for more than 2 days (dormant sites) will be delayed or suspended within the Cautionary Zone until there are no more collared caribou data within the Cautionary Zone or, a pre-clearing survey search for caribou and fresh caribou sign within 500 m of the site is conducted and confirms absence prior to clearing new work sites and prior to returning to a dormant site.

During the late winter sensitive period, if no collared caribou are within the Cautionary Zone, entry can occur following a pre-clearing survey if no caribou or fresh caribou sign is observed within 500 m. Exploration activities may be delayed or suspended in the area concerned if fresh caribou sign or individuals are observed within 500 m of the exploration site. Pre-clearing surveys to look for caribou and caribou sign may be completed daily until no new caribou sign or individuals are observed within 500 m and collar data indicates that there are no collared individuals in the Cautionary Zone.

Pre-clearing surveys will be conducted within 500 m of the exploration site even if no caribou collar location data occur in the Cautionary Zone, to confirm absence prior to exploration activities (Table 4).

During the sensitive calving/post-calving season, if collared caribou are identified within a Cautionary Zone around exploration activity, PPML will delay activities within this area until there is no longer a presence of collared animals in the Cautionary Zone. Then PPML will initiate a pre-clearing survey within 500 m of exploration activities to verify that no caribou are present (Table 4). These surveys will be completed prior to entering new exploration areas, as well as exploration areas that have been dormant

for more than 2 days. Pre-clearing surveys will be conducted within 500 m of the exploration site even if no caribou collar location data occur in the Cautionary Zone, to confirm absence prior to exploration activities (Table 4).

During the remaining, less sensitive seasons of the year (16 July to 15 March), exploration activities will be suspended if caribou are observed during pre-clearing surveys or incidentally by exploration crews working within 500 m of the area. Activities will be resumed after the animal has moved away from the exploration site (Appendix C).

Table 4: Cautionary Zones and Search Zones Around Exploration Sites and Resulting Mitigation During Boreal Caribou Seasons

Boreal Caribou Period ¹	Cautionary Zone ²	Search Zone ²	Mitigation
<i>Late Winter (16 March to 04 April)</i>	2 km	500 m	If collared caribou are within the Cautionary Zone, entry to new exploration sites or entry to sites that have been dormant for more than 2 days (dormant site) will be delayed or suspended within the Cautionary Zone until there are no more collared caribou data within the Cautionary Zone and a pre-clearing survey search for caribou and fresh caribou sign within 500 m of the site is conducted to confirm absence prior to clearing new work sites and prior to returning to a dormant site prior to starting up drilling or pitting, or prior to any blasting activities. If no collared caribou are within the Cautionary Zone, entry can occur following a pre-clearing survey if no caribou or fresh caribou sign is observed within 500 m. Exploration activities may be delayed or suspended in the area concerned if fresh caribou sign or individuals are observed within 500 m of the exploration site. Pre-clearing surveys to look for caribou and caribou sign may be completed daily until no new caribou sign or individuals are observed within 500 m and collar data indicates that there are no collared individuals in the Cautionary Zone.
<i>Calving/Post-calving (05 April to 15 July)</i>	2 km	500 m	If collared caribou are within the Cautionary Zone, entry to new exploration sites or entry to sites that have been dormant for more than 2 days will be delayed or suspended within the Cautionary Zone until there are no more collared caribou data within the Cautionary Zone. Then PPML will initiate a pre-clearing survey within 500 m of exploration activities to verify that no boreal caribou are present. Pre-clearing surveys will be conducted within 500 m of the exploration site even if no caribou collar location data occur in the Cautionary Zone, to confirm absence prior to exploration activities.
Summer, Fall, Early to Mid-Winter (16 July to 15 March)	500 m	500 m	If a caribou are visually observed within 500 m of exploration crews during a pre-clearing survey or incidentally, operations will be temporarily suspended in the immediate vicinity to allow wildlife to move away from the area of their own accord. If a caribou is reluctant to leave the area, this could be a sign that it is a female that is hiding a calf in close proximity. If this is the case, exploration activities will be suspended and the regional GNWT-ENR biologist will be contacted for advice.

km = kilometres; m = metres; <= less than; ≥ = great than or equal to

1 Caribou periods that are *italicized* are “sensitive” period

2 Distances are from the centre of the disturbance site (i.e., radii).

6.1.2 Supporting Documentation Caribou Monitoring Procedure (Appendix C)

6.2 Wildlife Sightings Monitoring

Wildlife sighting records provide a simple means for all staff to contribute to tracking wildlife activity at the Project. The value of the data is limited as it is not systematically collected and contains repeated observations, but it can provide an indication of the potential for wildlife incidents or problem wildlife and areas of concern at the Project.

6.2.1 Methods

Wildlife sighting records will be posted at the Project camp and work areas for staff to record observations of wildlife. All staff will be encouraged to add observations to the log, including the species, number, location, closest exploration site label/id, and date of the observation. PPML staff will check the logs weekly for evidence of problem wildlife or problem areas that may pose a risk to wildlife. The Environmental Manager will review and respond to any observations where wildlife, wildlife habitat, or human safety may be at risk.

6.2.2 Supporting Documentation

Wildlife Sighting Procedure and Form (Appendix C).

6.3 Wildlife Surveillance Monitoring

PPML staff will complete systematic surveys of the Project camp and waste management areas to document wildlife activity.

6.3.1 Methods

PPML staff will undertake systematic tours of the Project camp and waste management areas to record all wildlife observations or recent wildlife sign (e.g., tracks and scat). Surveys of these areas will be completed at least once per week. Any wildlife concerns that come to light during the survey will immediately be brought to the attention of the Environmental Manager so that appropriate action can be taken.

6.3.2 Supporting Documentation

Wildlife Surveillance Monitoring Procedure and Form (Appendix C).

6.4 Bird Nesting and Bat Roosting Monitoring

Clearing of vegetation will generally be scheduled to occur outside of migratory bird breeding and bat maternity seasons (May 1 to August 20). However, there may be instances where vegetation removal is required during this period because of schedule changes or unforeseen circumstances. In these cases, non-intrusive pre-clearing surveys are required, which will be developed on a case-by-case basis. See also Section 6.6 and Appendix C for Bird Nesting and Bat Roosting Monitoring.

Additional measures that will be implemented to reduce the potential for nesting by bank swallows at the Project site are the following:

- Stockpile and overburden slopes in active areas will be maintained with slopes at less than 70 degrees, where possible.
- Monitoring by PPML staff for nests will be increased in active quarries and borrow pits between late May and early July.

- Ensure PPML operational staff and contractors are aware of potential presence and interactions with bank swallows and conduct daily inspections for swallows or nests before starting disruptive activities in active quarries and borrow pits.

6.4.1 Methods

PPML staff, who have been trained by experienced bird observers, will undertake systematic monitoring within high use areas of the Project to detect bird nesting activity and potential bat maternity roosts. PPML staff will document avian nests and nesting behaviour, as well as potential little brown myotis and northern myotis maternal roosting sites as part of pre-clearing surveys.

Critical habitat for whooping cranes has been defined in Wood Buffalo National Park (Environment Canada 2007), with suitable habitat for whooping cranes overlapping the Project (Olson and Olson 2003; Dufour 2020, pers. comm.; Pearse et al. 2020). Whooping crane nests have been recorded within 10 km of the Pine Point site (Dufour 2020, pers. comm.) and whooping cranes outfitted with GPS transmitters have been recorded within approximately 40 km of the Pine Point site (Pearse et al. 2020). Any observations of whooping cranes by staff or contractors on the site will be immediately investigated and reported to ECCC.

The bird nesting/bat roosting survey will include high use areas of the Project where there is risk of birds or bats nesting or finding shelter. This will include areas of potential suitable whooping crane habitat (as defined by Olson and Olson [2003], with updates expected from ECCC in 2022 [Dufour 2021, pers. comm.]), buildings that are frequently used by nesting migratory birds, stockpiles of supplies, sand, and soil, and pit walls, as well as mobile and stationary equipment that has potential to be used during the migratory bird nesting and bat roosting season (May 1 to August 20).

Surveys in these areas will occur at least once per week during the migratory bird nesting and bat maternity roosting season and more frequently in particular areas if nests or roosts are found or nesting or roosting activity is observed.

6.4.2 Supporting Documentation

Bird Nesting/Bat Roosting Activity Monitoring Procedure and Form (Appendix C).

6.5 Whooping Crane Monitoring

Whooping crane residences (i.e., wetlands use for nesting) are protected under the *Species at Risk Act*. The success of whooping crane nests can be affected by changes to hydrology and water quality, as well as from sensory disturbance (e.g., presence of humans, noise). Activity restriction buffers are required around whooping crane nests year-round; buffers and monitoring requirements will be determined in consultation with ECCC on a case-by-case basis. See also Section 6.4, Section 6.6 and Appendix C for Bird Nesting and Bat Roosting Monitoring.

6.5.1 Methods

An aerial survey will be completed by qualified biologists between May 15 and May 31, 2023, and is planned to occur every 5 years thereafter, to detect active whooping crane nests and non-breeding individuals. Whooping crane nests and individuals will also be documented during pre-clearing surveys (Section 6.5).

6.5.2 Supporting Documentation

Whooping Crane Aerial Survey Procedure (Appendix C).

6.6 Pre-Clearing Monitoring

Pre-clearing surveys will be completed to detect large mammals, whooping crane (Section 6.5) or other migratory bird nests (Section 6.4) and raptor nests ahead of clearing and blasting activities. Raptor nests will be avoided by 500 m year-round, where possible, and clearing and blasting activities will be completed as quickly as possible to limit chances for large mammals to be present in the areas to be cleared.

6.6.1 Methods

Trained PPML staff will survey the area to be cleared or area where blasting will take place, plus a 500 m buffer by foot, ATV, snow machine, or truck. Any large mammals (e.g., caribou, moose, bison, bears, and wolves) or sign (e.g., tracks, scat), whooping crane sightings of individuals or nests, and raptor nests observed will be documented and reported to the Environmental Manager.

6.6.2 Supporting Documentation

Pre-clearing Wildlife Survey Procedure and Form (Appendix C).

6.7 Wildlife Incident Reporting

Wildlife incidents refer to a range of possible occurrences at the Project, including:

- Human-wildlife interactions that present a risk to either people or animals.
- Wildlife-caused damage to property or delay in operations.
- Wildlife deterrent actions (including audible or chemical deterrents; see Appendix C).
- Wildlife injury or mortality.
- Wildlife found dead, even if from natural causes.
- Observations of Whooping Cranes.
- Birds nesting on Project infrastructure or equipment.

PPML will document all such incidents and make recommendations to prevent future incidents or escalation of problems, and report to the GNWT-ENR. Any incidents involving migratory birds or species at risk will be reported to ECCC. Any incidents involving prescribed species listed in Schedule B of the Wildlife General Regulations and any bats will be reported to GNWT-ENR.

6.7.1 Methods

Documentation of wildlife incidents will include photographs, names of people involved, the nature of the incident, and supporting information, such as the time, date, location, and follow-up actions. Encounters with black bears will follow the guidance provided in the Safety in Grizzly Bear and Black

Bear Country brochure (GNWT-ENR 2017). All incidents will require follow-up to determine what can be done to prevent a similar incident from occurring in the future.

6.7.2 Supporting Documentation

- Wildlife Incident Procedures and Form (Appendix C).
- Safety in Grizzly and Black Bear Country (GNWT-ENR 2017).

7.0 Reporting

7.1 Weekly and Monthly Reporting

PPML will report the following information to ENR on a weekly basis at the beginning of the week during the caribou late-winter and calving periods, and monthly during the remainder of the year:

- Where and when exploration activities are occurring, including times and dates of blasting.
- Results of pre-clearing surveys.
- Incidental sightings of caribou and Species at Risk.
- Whether or not mitigation measures described in Table 4 were triggered and implemented as a result of the satellite collar data maps or ground-based surveys.

7.2 Annual Reporting

Once the CEP is underway, PPML will report progress and implementation of the Wildlife Management and Monitoring Plan in the Wildlife Management and Monitoring Plan Annual Report, documenting activities in the previous year. PPML will review the Wildlife Management and Monitoring Plan annually to reflect changes in operations or as directed by the MVLWB and GNWT-ENR. A copy of the report will also be provided to ECCC, specifically for concerns related to whooping crane, migratory birds, and species at risk.

The Wildlife Management and Monitoring Plan Annual Report will include, but not be limited to, the following information:

- Records of all surveys completed and wildlife observed.
- Occurrences of human-wildlife interactions, and incidents, accidents, injuries, or mortalities involving wildlife.
- A summary of the number of times that caribou collar locations overlapped with cautionary zones and how often additional mitigation measures were triggered.
- Records of disturbances to wildlife habitat that were not predicted.
- Observations of recreational and traditional or non-traditional harvesting activities near the Project.

- Record (including date, location coordinates and brief description) of all drill locations, sumps, access trails where clearing was required, drill pads where clearing was required.
- A discussion of the effectiveness of the mitigation outlined in the Wildlife Management and Monitoring Plan.
- Any updates or recommended changes to the Wildlife Management and Monitoring Plan.

A review of mitigation listed in the Wildlife Management and Monitoring Plan will be undertaken annually during the Project construction and operation to document instances of adaptive management and the success of mitigation. The mitigation review will investigate the following:

- Is all mitigation being implemented?
- How successful is the mitigation?
- Has new mitigation has been implemented in response to new issues?
- Is some mitigation redundant?

The results of the mitigation review will be included in the Annual Report, and the Wildlife Management and Monitoring Plan will be revised, if necessary, to reflect lessons learned.

8.0 Roles and Responsibilities

Project Contact

Primary Pine Point Mining Limited Contact: Andrew Williams

Title: Environmental Manager

Address: 1100 Avenue des Canadiens-de-Montréal, Bureau 300, Montreal, Quebec

Telephone: 416-209-2056

Email: acwilliams@live.ca

The following individuals are responsible to maintain and implement the Wildlife Management and Monitoring Plan.

The PPML Environmental Manager will:

- Approve the Wildlife Management and Monitoring Plan.
- Prepare updates of the Wildlife Management and Monitoring Plan.
- Prepare the annual Wildlife Management and Monitoring Plan report.
- Contact GNWT-ENR in the case of wildlife emergencies to GNWT-ENR South Slave Emergency number at 1-867-872-0400 (Fort Smith) or 1-867-875-7460

(Hay River) (24 Hours), Fax: (867) 873 – 6230. Any vehicle collisions with big game species should be reported within 24 hours to 1-866-762-2437.

- Contact ECCC for issues related to migratory birds and species at risk at cwsnorth-scfnorth@ec.gc.ca **and** dalfnord-wednorth@ec.gc.ca.
- Ensure that all staff are trained in the Wildlife Management and Monitoring Plan processes.
- Delegate responsibility for Wildlife Surveillance Monitoring, pre-clearing monitoring and regular road inspections
- Ensure that the Wildlife Sightings Record is maintained, and observations are transcribed to a database. All data is to be submitted annually to the GNWT at WMISTeam@gov.nt.ca.
- Review all Wildlife Incident Reports, pre-clearing monitoring reports, Wildlife Surveillance Monitoring and review and respond to any observations where wildlife, wildlife habitat, or human safety may be at risk.

All site staff will:

- Follow the mitigation and procedures described in the Wildlife Management and Monitoring Plan.
- Document all wildlife sightings in the Wildlife Sightings Record.
- Report any wildlife incidents to the Environmental Manager.

9.0 References

Acts and Regulations Cited

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- Wildlife Act*. SNWT 2017, c 19. Last amended 31 October 2017. <https://www.justice.gov.nt.ca/en/files/legislation/wildlife/wildlife.a.pdf>.

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- Environment Canada. 2013. Management Plan for the Yellow Rail (*Coturnicops noveboracensis*) in Canada. Species at Risk Act Management Plan Series. Environment Canada, Ottawa. ii + 24 pp.
- Environment Canada. 2015. Management Plan for the Rusty Blackbird (*Euphagus carolinus*) in Canada. Species at Risk Act Management Plan Series. Environment Canada, Ottawa. iv + 26 pp.
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Appendices

Appendix A: Conformity Tables for Wildlife Management and Monitoring Plan Versions

Appendix B: Statutory Requirements

Appendix C: Protocols and Datasheets

Appendix A:

Conformity Tables for Wildlife Management and Monitoring Plan Versions 1.1, 2.1 and Version 2.2

Conformity Table for Wildlife Management and Monitoring Plan Version 2.2

MVLWB applications MV2020L8-0012 and MV2020C0017

Notes:

Conformity Table A-1 presents conformance with Conditions outlined in the Approval of the Wildlife Management and Monitoring Plan for Pine Point Mining Ltd.’s Confirmation and Exploration Program received from the GNWT-ENR on 21 March 2022. Table A-1 should be reviewed in conjunction with the Wildlife Management and Monitoring Plan Approval.

Table A-1. Conformity Table for WMMP Version 2.2

Intervener	Subject	Condition	Response	Addressed in Section
GNWT-ENR – Condition 1	Whooping crane aerial survey protocols	PPML shall amend the aerial survey protocols for whooping crane nests to fly at an altitude of no less than 1000 ft. (300 m), to increase transect spacing to 1 km, and to conduct the surveys between May 15 and May 31. PPML shall use maps of caribou collar data provided by ENR (as outlined in WMMP Appendix C – Caribou Monitoring Procedure) to identify where the survey area may overlap with caribou calving locations, and avoid flying over those areas if they do not appear to contain suitable whooping crane nesting habitat. If boreal caribou are observed during the survey PPML shall ascend to a higher altitude and avoid circling over them.	PPML has amended the aerial survey protocols so that surveys are completed between May 15 and May 31, survey transects are 1 km apart, flights will not occur below 300 m above ground level, and caribou calving locations will be avoided.	Section 6.5 Appendix C - Whooping Crane Nesting Monitoring Procedure
GNWT-ENR – Condition 2	Mitigations	PPML shall update Section 6.1 and Appendix C – Caribou Monitoring Procedure to ensure that written descriptions of protocols match those displayed in the flowcharts in Appendix C – Figures 1, 2 and 3 and to clarify that pre-clearing surveys will occur year-round.	Amended text in the protocols match those displayed in the flowcharts and to clarify that pre-clearing surveys will occur year-round.	Section 6.1 Appendix C - Caribou Monitoring Procedure
GNWT-ENR – Condition 3	Exploration areas of interest	PPML shall provide ENR with an updated shapefile of exploration areas of interest that includes an attribute field with the site ID labels used in Figures 3 and 4 of the WMMP (pgs. 16-17).	A shapefile has been attached with the submission of Version 2.2 of the WMMP.	Not applicable

Table A-1. Conformity Table for WMMP Version 2.2

Intervener	Subject	Condition	Response	Addressed in Section
GNWT-ENR – Condition 4	Reporting Requirements	PPML shall revise Appendix C - Bird Nesting and Bat Roosting Activity Procedure and Appendix C - Wildlife Incidental Reporting Procedure to include the appropriate ENR South Slave Region contact information for reporting wildlife incidents or to seek advice in instances where the nest of a territorially managed bird species or bat roost is encountered.	Amended to include the appropriate ENR South Slave Region contact information.	Appendix C - Bird Nesting and Bat Roosting Activity Procedure Appendix C - Wildlife Incident Reporting Procedure
GNWT-ENR – Condition 5		PPML shall add comments and recommendations made by FRMG on version 2.0 of the WMMP, and PPML's responses to them, to Appendix A – Table A-1.	Comments from FRMG have been added to the Conformity Table for Version 2.2.	Appendix A, Table A-2

Conformity Table for Wildlife Management and Monitoring Plan Version 2.0

MVLWB applications MV2020L8-0012 and MV2020C0017

Notes:

Conformity Table A-2 should be reviewed in conjunction with the PPML Response to the public review of WMMP Version 1.1 for MV2020C0017. Intervenor recommendations and PPML responses were posted on the MVLWB Online Review System on 4 October 2021. The intent of the review was to confirm whether this version of the WMMP addresses previously raised concerns regarding impacts of the Project on wildlife and wildlife habitat.

Table A-2. Conformity Table for WMMP Version 2.1

Intervener	Subject	Recommendation	Response	Addressed in Section
ECCC-2	General comment	ECCC recommends that in their WMMP approval, ENR clarify that their authority to approve WMMP content does not extend to migratory birds protected under the federal Migratory Birds Convention Act and Species at Risk Act.	PPML intends to comply with all the requirements of the Migratory Birds Convention Act (MBCA) and the Species at Risk Act (SARA), and has had on-going discussions with ECCC to support this intent. PPML will provide a copy of all Annual Reports directly to ECCC.	Entire document. Section 6.4 added specifically to address ECCC concerns regarding Whooping Crane.
ECCC-3	3.0 Statutory Requirements and Guidelines, Table 1, Species at Risk Act	ECCC recommends that reference to species listed as “Special Concern” be removed in the statement. ECCC recommends that references to the relevant sections of the SARA be added for the application of the prohibitions.	The “Special Concern” ranking was removed from the definition of Species at Risk under the <i>Species at Risk Act</i> .	Section 3.0, Table 1

Table A-2. Conformity Table for WMMP Version 2.1

Intervener	Subject	Recommendation	Response	Addressed in Section
ECCC-4	4.0 Species at Risk, Table 2	ECCC recommends that the following species be added to Table 2: Red-necked Phalarope, Short-eared Owl, Lesser Yellowlegs, Evening Grosbeak, Harris’s Sparrow, Transverse Lady Beetle, Suckley’s Cuckoo Bumble Bee ECCC recommends that the statuses of the following species be revised: <ul style="list-style-type: none"> • Barn Swallow - federal SAR status be changed to “Threatened” • Common Nighthawk - COSEWIC status be changed to “Special Concern” • Olive-sided Flycatcher - COSEWIC status be changed to “Special Concern” 	The Species at Risk table was updated accordingly.	Section 4.0, Table 2 Appendix C (Bird Nesting and Bat Roosting Activity Procedure)
ECCC-5	4.0 Species at Risk	ECCC recommends that this statement be revised to state that the project area overlaps whooping crane potential nesting habitat, as defined by Olson and Olson (2003).	Reference to overlap with whooping crane potential nesting habitat was added.	Section 4.0 Section 6.5.1

Table A-2. Conformity Table for WMMP Version 2.1

Intervener	Subject	Recommendation	Response	Addressed in Section
ECCC-6	6.6 Wildlife Incident Reporting Appendix C - Wildlife Incidental Reporting Procedure	ECCC should be added as a responsible regulatory agency in section 6.6. ECCC recommends that the proponent clarify that ECCC is to be contacted in the Wildlife Incidental Reporting Procedure for all wildlife incidents involving migratory birds. ECCC also recommends the proponent update the Wildlife Incidental Reporting Procedure to add additional methodology for migratory bird mortalities. After taking photographs of the bird (under the “Collect photographs” section), it should also include that the carcass be collected, bagged, and tagged (with date, location, species, and any other relevant information), and placed in a freezer until PPML staff have received advice from ECCC on disposal of the carcass. ECCC recently underwent email migration. As such, the ECCC contact information in the “Reporting” section of the Wildlife Incidental Reporting Procedure should be revised to: cwsnorth-scfnord@ec.gc.ca and dalfnord-wednorth@ec.gc.ca.	ECCC was added as a responsible regulatory agency ECCC was added as a contact for migratory bird incidents Added to the Wildlife Incident Reporting Procedure that migratory bird mortalities should be collected, tagged and placed in freezer. ECCC email contact information updated throughout.	Section 6.7 Appendix C (ECCC included as a contact for migratory birds in the Bird Nesting and Bat Roosting Activity Procedure, the Whooping Crane Nest Monitoring Procedure, the Pre-Clearing Survey Procedure, and the Wildlife Incidental Reporting Procedure) Appendix C

Table A-2. Conformity Table for WMMP Version 2.1

Intervener	Subject	Recommendation	Response	Addressed in Section
ECCC-7	6.4 Bird Nesting and Bat Roosting Monitoring Appendix C - Bird Nesting and Bat Roosting Activity Procedure	<p>ECCC reiterates its recommendations from technical comment ECCC-10 that additional measures for the protection of bank swallows and to prevent operational delays should be included in the WMMP.</p> <p>Additional measures should include:</p> <ul style="list-style-type: none"> • Maintaining stockpile and overburden slopes in active areas at less than 70 degree, where possible • Increase nesting monitoring by PPML Environment staff in active quarries and borrows pits between late May and early July • Ensure PPML operational staff and contractors are aware of potential presence and interactions with bank swallows and conduct daily inspections before starting disruptive activities in active quarries and borrow pits. <p>The Proponent should consult the attached ECCC pamphlet for additional information.</p> <p>ECCC also recommends that all stockpiles, pits walls and any other existing or created habitat features in the project area that is suitable for bank swallow nesting be added to the list of areas surveyed in the Bird Nesting and Bat Roosting Activity Procedures.</p>	<p>The additional mitigation for protection of bank swallows was added.</p>	<p>Section 6.4 Appendix C (Bird Nesting and Bat Roosting Activity Procedure)</p>

Table A-2. Conformity Table for WMMP Version 2.1

Intervener	Subject	Recommendation	Response	Addressed in Section
ECCC-8	6.4 Bird Nesting and Bat Roosting Monitoring Appendix C - Bird Nesting and Bat Roosting Activity Procedure	ECCC reiterates its recommendations from technical comment ECCC-8 that additional details regarding the non-intrusive pre-clearing survey protocols be included in the WMMP. Additional details for these types of surveys should include: <ul style="list-style-type: none"> • Clearer criteria for postponing or avoiding activities • Use of skilled and experienced bird observers • Minimizing the time-lag between surveys and clearing 	Clarification about training of PPML staff and local community environmental field technicians by experienced bird observers to conduct the sweeps was added.	Section 6.4.1 Appendix C (Bird Nesting and Bat Roosting Activity Procedure)
GNWT-ENR-1	Resource selection function models	1) ENR recommends including a reference in the Wildlife Management and Monitoring Plan (WMMP) identifying the document that contains the stated models, and including a website link where a copy of that document can be obtained.	A copy of Golder 2018 will be provided to ENR. The reference to Golder (2018) has been included in the reference list.	Section 1.1 Section 9.0 A copy of Golder 2018 will be provided to ENR
GNWT-ENR-3	Monitoring	1) ENR recommends adding an objective related to monitoring.	An objective related to monitoring has been added.	Section 2.0
GNWT-ENR-4	Species at Risk	1) ENR recommends adding a column to the Table to identify if species are listed under NWT SARA. Please provide the details of Wood Bison observations in the project area. Also, remove the Northern Leopard Frog from Table 2.	A column identifying if species listed under NWT SARA was added to Table 2. Observations of bison will be documented through the Wildlife Sighting Procedure, the Pre-Clearing Survey Procedure and the Incident Report. Northern leopard frog was removed from Table 2 and from text in Section 4.0.	Section 4.0, Table 2 Appendix C (Wildlife Sighting Procedure, the Pre-Clearing Survey Procedure and the Incident Report)
GNWT-ENR-5		1) Please ensure that the list of NWT and federally assessed/listed species at risk, that may overlap with the project area, is up to date and complete.	The Species at Risk table was updated accordingly.	Section 4.0, Table 2

Table A-2. Conformity Table for WMMP Version 2.1

Intervener	Subject	Recommendation	Response	Addressed in Section
GNWT-ENR-6	Caribou monitoring	1) ENR recommends to add that PPML will inform ENR on a regular basis (beginning of every week during late winter, during calving and monthly if otherwise) of where operations are currently occurring and planned to occur during that period.	Text regarding PPML informing ENR of where operations are currently occurring and planned to occur on a regular basis has been added.	Section 6.1.1.3 Section 7.1
GNWT-ENR-7	Pre-clearing surveys	1) Please stipulate whether there will be ground searches, or whether other technology such as drones might be used. If on-land, please provide additional details in Appendix C regarding how the 500m radius area will be covered.	Pre-clearing surveys will be completed by ground searches and this has been clarified.	Section 6.1.1.3 Appendix C (Pre-Clearing Wildlife Survey Procedure)
GNWT-ENR-8		1) ENR recommends revising these statements to indicate that the 500m radius ground searches will occur at sites left dormant for more than 2 days.	Statements have been revised to state that ground searches will occur at sites left dormant for more than 2 days.	Section 6.6.1 Appendix C (Caribou Monitoring Procedure)
GNWT-ENR-9	Caribou monitoring	1) ENR recommends adding a bullet to stipulate PPML will report where exploration is planned to occur in the following week.	Text regarding PPML informing ENR weekly of where exploration activities is planned to occur in the following week has been added.	Section 6.1.1.3 Table 4 Appendix C (Caribou Monitoring Procedure)
GNWT-ENR-10	Reporting requirements	1) ENR recommends including results of pre-blast surveys, a summary of the number of times that caribou collar locations overlapped with cautionary zones and how often additional mitigation measures were triggered.	Reporting requirements have been updated to include the result of pre-clearing surveys, a summary of the number of times that caribou collar locations overlapped with cautionary zones, and how often additional mitigation measures were triggered.	Section 7.2 Appendix C (Caribou Monitoring Procedure)
GNWT-ENR-11		1) ENR recommends PPML should add that this data will be submitted by email annually to WMISTeam@gov.nt.ca .	All data will be submitted by email annually to WMISTeam@gov.nt.ca and this has been added into the document.	Section 8.0 Appendix C (Wildlife Sightings Procedure)
GNWT-ENR-12	Identification of exploration areas	1) ENR recommends PPML provide an updated shapefile for the exploration areas of interest that includes a labeling/numbering system.	PPML has provided this shapefile to ENR	Section 6.1.1.2, Figure 3 and Figure 4
GNWT-ENR-13	Pre-clearing surveys	1) PPML should clarify, within the procedure and in the WMMP, that the pre-clearing survey for large mammals will also occur prior to blasting.	Wording regarding completing pre-clearing surveys prior to blasting has been added.	Section 6.6 Appendix C (Pre-Clearing Survey Procedure)

Table A-2. Conformity Table for WMMP Version 2.1

Intervener	Subject	Recommendation	Response	Addressed in Section
GNWT-ENR-14		1) ENR recommends including the qualifications, or directed training, personnel will have for conducting survey activities.	Specific qualifications cannot be provided at this time. Appendix C states that surveys will be led by a community environmental technician trained by a qualified biologist.	No changes made
GNWT-ENR-15	Reporting requirements	1) It is recommended adding to the reporting requirements that ENR will be notified if it is a territorially managed bird species or bat species.	Clarified that annual reports will document all surveys completed and wildlife observed, regardless of whether they are federally or territorially managed. Clarified that PPML will report to GNWT-ENR any incidents regarding prescribed species listed in Schedule B of the Wildlife General Regulations and any bats.	Section 7.2 Section 6.7
GNWT-ENR-16	Pre-clearing surveys	1) ENR recommends that this stipulation should be applied to all surveys (roost survey, nest survey).	Text has been added regarding surveys being completed by trained personnel.	Section 6.4.1 Section 6.5.1 Section 6.6.1 Appendix C (Bird Nesting and Bat Roosting Activity Procedure) Appendix C (Whooping Crane Nesting Monitoring Procedure) Appendix C (Pre-Clearing Survey Procedure)
GNWT-ENR-17	Data collection	1) ENR recommends adding the label/number for the exploration site, as indicated in earlier maps. Also, include weather conditions, and number of days since last snow fall, on each survey datasheet.	Fields have been added to the data collection forms for label/number of the exploration site, weather conditions, and days since last snow (where applicable). Figures 3 and 4 have been updated to show labels for each exploration site.	Figure 3 and Figure 4 Appendix C (Pre-Clearing Wildlife Survey datasheet) Appendix C (Wildlife Surveillance Monitoring datasheet) Appendix C (Whooping Crane Aerial Survey datasheet) Appendix C (Bird Nesting/Bat Roosting Activity datasheet)

Table A-2. Conformity Table for WMMP Version 2.1

Intervener	Subject	Recommendation	Response	Addressed in Section
GNWT-ENR-18		1) ENR recommends adding the label/number for the exploration site, as indicated in earlier maps. Include weather conditions and number of days since last snow fall on each survey datasheet. Also, add a description of the habitat (e.g. vegetation composition, height, density, presence of lichens) that will be cleared, and if it contains biophysical attributes of critical habitat for Boreal Caribou.	Fields have been added to the data collection forms for label/number of the exploration site, weather conditions, days since last snow (where applicable), habitat description, and if it contains biophysical attributes of critical habitat for boreal caribou. Figures 3 and 4 have been updated to show labels for each exploration site.	Figure 3 and Figure 4 Appendix C (Pre-Clearing Wildlife Survey datasheet)
FRMG-01	Mitigations	The WMMP states: "Project activities will be scheduled to occur outside of critical (nesting) periods for migratory birds and calving periods for caribou, bison and other wildlife, to the extent possible." Clarity is needed on what extent possible means and if any project activities are proposed outside of the March 16 - July 15 period that was identified as the most sensitive time for boreal caribou.	Exploration may continue between March 15 and July 15, but the camp is typically closed at this time to avoid the wet conditions during freshet. The additional monitoring and mitigation required during this season also acts as an incentive to avoid or reduce Project activities.	No changes made
FRMG-02	Reclamation	FRMG is seeking clarification on opportunities for FRMG leadership to provide input in the Progressive Reclamation process of disturbed areas, including the setting of standards for reclamation, and any opportunities for FRMG members within reclamation activities.	PPML looks forward to working with FRMG on reclamation issues, for areas where no further activity is expected. A Project-wide Closure and Reclamation Plan will be developed through a public process under the water license MV2020L8-0012.	No changes made

Table A-2. Conformity Table for WMMP Version 2.1

Intervener	Subject	Recommendation	Response	Addressed in Section
FRMG-03	Resource selection function models	PPML to update the WMMP to include re-doing the resource selection function (RSF) for the Pine Point midway through Project activities and propose additional mitigations, including habitat offsetting, if there is a marked decrease in use beyond an agreed upon threshold.	RSFs are predictive tools that are unlikely to provide meaningful insight into changes in caribou use of the area during the CEP, particularly considering that the Project will be undertaken in areas that are already disturbed and the presence of other activity at the Pine Point area. Exploration and mining has been ongoing at Pine Point since 1900, and changes due to the upcoming few years of exploration are unlikely to be detected. PPML intends to continue to use existing roads and disturbed areas for the CEP. PPML's operations should also be considered in the larger context of the many other users of the Pine Point area, including hunting, camping, ATV use, harvesting of firewood and commercial timber operations. PPML reminds FRMG that this review of the WMMP is to confirm that previously raised concerns are addressed. The development of RSFs for the CEP have not been previously discussed. Rather, any caribou observations, mitigations and adjustment to mitigations based on observations will be identified through annual reporting.	No changes made
FRMG-04	Mitigations	PPML to update the WMMP including updating the wording of the mitigations within Table 3, to clarify that the Project site is a brownfield site with natural regeneration and active wildlife use.	PPML will clarify that the Project activities will preferentially select previously disturbed areas where natural revegetation is limited and where no vegetation clearing is required.	Table 3 revised text to capture natural revegetation areas.

Table A-2. Conformity Table for WMMP Version 2.1

Intervener	Subject	Recommendation	Response	Addressed in Section
FRMG-05	Mitigations	<p>During the Summer, Fall, Early to Mid-Winter (16 July to 15 March) periods, PPML states the visual observations of caribou by exploration crews will be the primary mitigation measure utilized, however is there an opportunity to continue to use GNWT-ENR caribou telemetry data year-round to inform project actions based on caribou movement within 2 km of all project sites. For example, satellite data can indicate if specific activities with higher disturbance, such as blasting, need to be temporarily delayed if caribou are within 2 km of the site. PPML to comment on the feasibility to using satellite collar data year round and update Table 4 accordingly.</p>	<p>The WMMP uses tiered mitigation, where the level of mitigation and monitoring increases with the likelihood of caribou presence and their sensitivity to disturbance. PPML is confident that this system is very precautionary, can be implemented, and will be effective. The details in Table 4 have already been reviewed and discussed through a public process, as described in the Conformity Tables, and incorporate the guidance provided by GNWT-ENR. PPML also reminds reviewers that the tiered mitigation has already been intensified during the review process. For example, it was originally proposed that ground searches would only be initiated during sensitive seasons, but in response to earlier comments, PPML agreed to extend these surveys to all times of year and regardless of the presence of collared caribou. PPML cannot comment on whether ENR has capacity to provide satellite collar data throughout the year, and also reminds reviewers that there is significant recreational and harvesting use of the Pine Point area, which also affects caribou movements.</p>	No changes made
FRMG-06	Mitigations	<p>During the Summer, Fall, Early to Mid-Winter (16 July to 15 March) periods, PPML states the visual observations of caribou by exploration crews will be the primary mitigation utilized, however Section 6.5 of the WMMP indicates that pre-clearing surveys will be completed for large mammals regardless of the season.</p> <p>September 20, 2021</p> <p>PPML to update Table 4 to include reference to the large mammal and raptor pre-clearing surveys for the 16 July to 15 March time period.</p>	<p>In the interests of clarity and alignment with the direction previously provided by GNWT-ENR and the flow charts in the Pre-Clearing Survey Procedure, PPML prefers that Table 4 remain focused on boreal caribou.</p>	No changes made
FRMG-07	Mitigations	<p>PPML to confirm why a five day dormancy period was considered adequate and update the WMMP to include that work will be delayed or temporarily suspended when caribou are within the 2 km Cautionary Zone during the sensitive time period and within 500 m of exploration sites outside of the sensitive time periods, including both new and active sites.</p>	<p>As noted by GNWT-ENR#8 above, this dormancy period will be changed to two days.</p>	Section 6.6.1 Appendix C (Caribou Monitoring Procedure)

Table A-2. Conformity Table for WMMP Version 2.1

Intervener	Subject	Recommendation	Response	Addressed in Section
FRMG-08	Mitigations	PPML to define what "as close as possible" means, as well if there is any maximum time period between pre-clearing survey and clearing activates in which the pre-clearing survey must be redone.	As noted by GNWT-ENR#8 above, this dormancy period will be changed to two days.	Section 6.6.1 Appendix C (Caribou Monitoring Procedure)

Conformity Table for Wildlife Management and Monitoring Plan Version 1.1

MVLWB applications MV2020L8-0012 and MV2020C0017

Notes:

Conformity Table A-3 should be reviewed in conjunction with the PPML Response to Technical Interventions, 11 May 2021¹. Note that only Requirements or Recommendations that result in a change to the WMMP are listed in the Conformity Table. Refer to the Response to Technical Interventions for a comprehensive list of recommendations and the PPML responses.

Conformity Table A-4 should be reviewed in conjunction with the transcripts and presentations delivered during the Public Hearing on 15 to 17 June, 2021. Only Recommendations that affected the WMMP and that the intervenors had indicated were unresolved have been included.

Table A-3. Conformity Table for Technical Interventions on Version 1.0 of the WMMP and Addressed in Version 1.1

Organization and Document	Section	Requirement/Recommendation	Addressed in Section
GNWT-ENR WMMP Determination Letter ²	Attachment 2	PPML will revise their procedures to indicate that they will refer to collar location maps provided by ENR every 2 days during sensitive seasons (late winter, calving, and post-calving) in making decisions about timing and location of activities	Section 6.1.1.3; Table 4
		PPML will apply the proposed procedures prior to blasting and other disturbing activities and ensure that this is reflected in the WMMP submitted for approval	Section 6.1.1.3
		During the late-winter and calving seasons, PPML will conduct ground searches within 500 m prior to clearing new work sites, prior to returning to previously cleared sites that may have been dormant for more than 2 days to start up drilling or pitting, or prior to any blasting activities.	Section 6.1.1.3; Table 4
		PPML will revise their caribou mitigation protocols to stipulate that during the calving season, PPML will delay entry to new exploration sites (or sites that are dormant for more than 2 days), or suspend clearing and blasting activities if collared caribou are within the 2 km cautionary zone.	Section 6.1.1.3; Table 4

¹ <http://registry.mvlwb.ca/Documents/MV2020L8-0012/PPML%20-%20Response%20to%20Intervention%20-%20May11-21.pdf>

² http://registry.mvlwb.ca/Documents/MV2020C0017/PPML%20-%20Wildlife%20Management%20and%20Monitoring%20Plan%20Determination%20-%20Apr30_21.pdf

Table A-3. Conformity Table for Technical Interventions on Version 1.0 of the WMMP and Addressed in Version 1.1

Organization and Document	Section	Requirement/Recommendation	Addressed in Section
		PPML should use ENR’s RSF model predictive maps instead of conducting further analyses of boreal caribou collar data. PPML should provide further details about how they would use predictive mapping to support decision making about areas of interested, scheduling, and/or mitigation.	Section 6.1.1.2
		PPML should devise a numbering/labelling system to identify the exploration areas of interest so that they can be referred to more easily in collar data maps, discussion, and reporting.	Section 6.1.1.2; Figures 2 - 4
		PPML will identify measures in the WMMP for onsite restoration of newly disturbed and regenerating areas that it has cleared, including how it will discourage access and lines of sight for predators and humans along new or widened linear trails.	Table 3
		PPML will provide ENR with reports of where and when exploration activities are occurring within the Land Use Permit area (including dates and times of blasting), as well as results of any pre-clearing/pre-activity surveys, any incidental sightings of boreal caribou, and whether or not any mitigation measures were triggered and implemented as a result of the collar data maps or ground-based surveys. These reports shall be provided weekly during late winter and calving, and monthly during the remainder of the year.	Section 7.2
ECCC Technical Interventions for the PPML Confirmation and Exploration Program Type A Water License Application W2020L8-0012 ³	Section 4.6 ECCC#6	<p>Given the endangered status of whooping cranes, ECCC recommends that a specific management plan be developed for whooping cranes, in consultation with ECCC, to further assess potential residual impacts and to implement specific measures to minimize risks associated with all project activities.</p> <p>At a minimum ECCC recommends:</p> <ul style="list-style-type: none"> - The primary mitigation for all project activities should be avoidance of impacts to whooping cranes and their habitat, to the greatest extent possible. - Regardless of season, in areas where avoidance of whooping crane habitat is not possible, surveys should be conducted by qualified individuals when whooping cranes are expected to be present. - Any observations of whooping cranes by staff or contractors on the site should be immediately investigated and reported to ECCC. - All staff and contractors should be made aware of the potential presence of whooping cranes in the area, their conservation status, and reporting procedures. 	<p>Table 3; Sections 6.4, 6.6 require surveys prior to clearing any vegetation.</p> <p>Observation of Whooping Cranes added as a reporting trigger to Section 6.7</p>

³ http://registry.mvlwb.ca/Documents/MV2020C0017/PPML%20-%20Intervention%20from%20ECCC%20-%20May4_21.pdf

Table A-3. Conformity Table for Technical Interventions on Version 1.0 of the WMMP and Addressed in Version 1.1

Organization and Document	Section	Requirement/Recommendation	Addressed in Section
	Section 4.8 ECCC#8	ECCC recommends that biophysical attributes important to boreal caribou be avoided, to the extent possible	Section 6.1.1.2 (incorporated Resource Selection Function maps provided by GNWT; DeMars et al. 2020)
FRMG Technical Interventions for the PPML Confirmation and Exploration Program Type A Water License Application W2020L8-0012 ⁴	Recommendation #16	FRMG recommends that PPML provide justification for the listing of observed species of concern at Pine Point	Section 4.0 has been updated to clarify the sources
	Recommendation #17	FRMG recommends that PPML provide a fulsome assessment of all potential impacts to boreal caribou from the proposed Project, and the implications of these impacts for boreal caribou in the Pine Point herd. In particular, FRMP recommends that PPML adequately consider and account for the amount of habitat that will be disturbed on the site, both directly (i.e., direct habitat loss) and indirectly (i.e., at a minimum within 500 m of all disturbed habitat). This request is also reflected in the GNWT’s request that PPML provide more detailed information on the specific locations, timing, and frequency of activities proposed for this project, as well as an estimate of how much new habitat disturbance will occur as a result of project activities in order to properly assess impacts.	Sections 6.1 and 6.6 document the required caribou monitoring and pre-clearing monitoring (see also the Response to Interventions)
	Recommendation #18	FRMG recommends that PPML include specific habitat mitigation measures for both direct and indirect habitat loss, including habitat offsetting at as sufficient ration to address the impacts to boreal caribou habitat resulting from the proposed exploration within the project area	Section 6.1 (see also the Response to Interventions). Greenfield site to reduce potential for habitat loss with low soil disturbance exploration activities to encourage natural revegetation.

⁴ http://registry.mvlwb.ca/Documents/MV2020C0017/PPML%20-%20Intervention%20from%20FRMG%20-%20May4_21.pdf

Table A-3. Conformity Table for Technical Interventions on Version 1.0 of the WMMP and Addressed in Version 1.1

Organization and Document	Section	Requirement/Recommendation	Addressed in Section
	Recommendation #19	FRMP recommends that PPML provide clear methodology on the pre-clearing survey, including a maximum time between the surveys and clear activities is established, sign definition, and threshold for sign age.	Section 6.6
	Recommendation #20	Considering the majority of the Project occurs on a brownfield site that has natural regrowth, FRMG recommends that this requirement (for Pre-Clearing Surveys) be changed from greenfield areas to all project areas where there will be vegetation removal and disturbance	Section 6.6 (see also the Response to Interventions)
DKFN Technical Interventions for the PPML Confirmation and Exploration Program Type A Water License Application W2020L8-0012 ⁵	Section 4.1.1	MVLWB to incorporate management guidelines and actions into permitting conditions for activities identified as affecting boreal caribou or their habitat	Section 6.1 includes caribou monitoring methods (see also the Response to Interventions)
	Section 4.1.3	PPML, in collaboration with DKFN, conduct a reconnaissance of proposed investigation sites and access to confirm the presence of biophysical attributes important to boreal caribou. Where these are present, alternate investigation sites and/or access should be explored.	Section 6.1.1.2 (incorporated Resource Selection Function maps provided by GNWT; DeMars et al. 2020; see also the Response to Interventions)
	Section 4.1.4	PPML has stated “cautionary zones” will be used around sites of the exploration activity to limit effects on boreal caribou. Additional information is required on what these zones are and where they will be used.	Table 4
	Section 4.1.5	PPML to provide an updated version of the Wildlife Protection/Wildlife Management and Monitoring Plan prior to the water license and land use permit being issued.	Entire document

⁵ http://registry.mvlwb.ca/Documents/MV2020C0017/PPML%20-%20Intervention%20from%20DKFN%20-%20May4_21.pdf

Table A-3. Conformity Table for Technical Interventions on Version 1.0 of the WMMP and Addressed in Version 1.1

Organization and Document	Section	Requirement/Recommendation	Addressed in Section
KFN Technical Interventions for the PPML Confirmation and Exploration	KFN 4	KFN recommends that PPML complete a Wildlife Mitigation and Monitoring Plan that includes information on potential habitat loss from the project and effects to winter and calving habitat. The plan should include a Dene-centric perspective of the potential significance of habitat loss, fragmentation, and mortality from the Project on boreal caribou. The plan should further identify mitigation measures, program monitoring to assess if the mitigation measures are working and adaptive management.	Entire document
Program Type A Water License Application W2020L8-0012 ⁶	KFN 7	KFN recommends that the first method for the protection of boreal caribou is avoiding damage and disturbance to boreal caribou habitat to the greatest extent possible. Recovery of usable habitats is questionable and can take a significant period of time. In the case of reclamation of roads, PPML currently does not have any definitive plans on when or if roads will be reclaimed, KRN considers that the roads will be on the landscape for at least 20 years or potentially in perpetuity. KFN recommends that Golder Associates’ Boreal Caribou Habitat Restoration Toolkit (Golder 2015) be used for roads that are developed but not going to be used in the future.	Table 3

⁶ http://registry.mvlwb.ca/Documents/MV2020C0017/PPML%20-%20Intervention%20from%20KFN%20-%20May4_21.pdf

Table A-4. Conformity Table for the Public Hearing on Version 1.0 of the WMMP and Addressed in Version 1.1.

Intervener	Subject	Recommendation	Response
ECCC-6	Whooping Cranes and their Habitat	<p>Given the endangered status of whooping cranes, ECCC recommends that a specific management plan be developed for whooping cranes, in consultation with ECCC, to further assess potential residual impacts and to implement specific measures to minimize risks associated with all project activities.</p> <p>At a minimum, ECCC recommends:</p> <ul style="list-style-type: none"> • The primary mitigation for all project activities should be avoidance of impacts to whooping cranes and their habitat, to the greatest extent possible. • Regardless of season, in areas where avoidance of whooping crane habitat is not possible, surveys should be conducted by qualified individuals when whooping cranes are expected to be present. • Any observations of whooping cranes by staff or contractors on site should be immediately investigated and reported to ECCC. • All staff and contractors should be made aware of the potential presence of whooping cranes in the area, their conservation status and reporting procedures. 	<p>PPML agrees to the inclusion of the additional information, but suggests that this information should reside within the Wildlife Management and Monitoring Plan rather than a standalone plan. The WMMP Version 1.1 was updated to incorporate these additional suggestions for Whooping Crane. Specifically:</p> <ul style="list-style-type: none"> • Section 4.0 clarification that activities outside of designated whooping crane critical habitat but recognition that nesting habitat adjacent or near exploration activity areas (refer also to Section 6.5.1). • Section 5.0 Table 3 mitigation, including location of Project in primarily a brownfield site and use of existing access to reduce potential impacts to habitat, exploration activities will be completed primarily under frozen ground conditions thereby avoiding activities during the sensitive breeding and nesting period for migratory birds, and adherence to the Water Withdrawal Plan, which describes facilities for containment and treatment, discharge, and monitoring during the CEP to confirm no deleterious risk to aquatic biota [thereby not impacting whooping crane food or water habitats that may be used for nesting]. • Section 6.0 (as well as Appendix C) Monitoring including Wildlife Sightings Monitoring, Wildlife Surveillance Monitoring, Bird Nesting Monitoring, Pre-clearing Monitoring and Wildlife Incident Reporting. • Section 6.7.1 Any observations of whooping cranes by staff or contractors on the site will be immediately investigated and reported to ECCC.

Table A-4. Conformity Table for the Public Hearing on Version 1.0 of the WMMP and Addressed in Version 1.1.

Intervener	Subject	Recommendation	Response
ECCC-7	Wildlife Protection Plan	<p>ECCC recommends that MVLWB rely on GNWT-ENR and other interveners regarding the adequacy of the proposed caribou-specific measures.</p> <p>ECCC recommends to the MVLWB (or GNWT-ENR) that an additional opportunity be provided for interveners to review the revised WPP (or WMMP).</p>	<p>The Government of the Northwest Territories, Environment and Natural Resources (GNWT-ENR) has determined that the Project triggers Section 95 of the <i>Wildlife Act</i>, and thus the WMMP requires approval by GNWT-ENR (GNWT 2021). In making this determination, GNWT-ENR has provided specific guidance to PPML on the incorporation of intervener's feedback. Further review of the WMMP Version 1.1 is at the discretion of GNWT-ENR.</p> <p>Reference: GNWT (Government of the Northwest Territories). 2021. Wildlife Act Section 95(1) determination of the requirement for a Wildlife Management and Monitoring Plan for Pine Point Mining Ltd.'s Confirmation and Exploration Program. April 30, 2021. Available at: http://registry.mvlwb.ca/Documents/MV2020L8-0012/PPML%20-%20Wildlife%20Management%20and%20Monitoring%20Plan%20Determination%20-%20Apr30_21.pdf</p>
ECCC-8	Boreal Caribou Critical Habitat	<p>ECCC recommends that biophysical attributes important to boreal caribou be avoided, to the extent possible.</p>	<p>PPML agrees with this recommendation. GNWT-ENR has offered to share a predictive resource selection function map for boreal caribou (GNWT 2021). This map has been incorporated into the WMMP Version 1.1, and will be an important tool to meet this recommendation.</p> <p>Reference: GNWT (Government of the Northwest Territories). 2021. Wildlife Act Section 95(1) determination of the requirement for a Wildlife Management and Monitoring Plan for Pine Point Mining Ltd.'s Confirmation and Exploration Program. April 30, 2021. Available at: http://registry.mvlwb.ca/Documents/MV2020L8-0012/PPML%20-%20Wildlife%20Management%20and%20Monitoring%20Plan%20Determination%20-%20Apr30_21.pdf</p>

Table A-4. Conformity Table for the Public Hearing on Version 1.0 of the WMMP and Addressed in Version 1.1.

Intervener	Subject	Recommendation	Response
FRMG-15		FRMG recommends updating the Species of Concern Project list to include culturally important species for Fort Resolution Métis members, such as moose, game birds (e.g., ptarmigan), and furbearers.	<p>As per the Wildlife Management and Monitoring Plan Guidelines (GNWT 2019), the WMMP list of Species of Concern is specific to those species with legislated protection under the federal <i>Species at Risk Act</i> or the territorial <i>Species at Risk (NWT) Act</i>. As the WMMP includes general mitigation and monitoring for wildlife, these species are already protected. Regardless, the WMMP Version 1.1 includes specific mention of these species (refer to Section 4).</p> <p>Reference: GNWT (Government of the Northwest Territories). 2019. Wildlife Management and Monitoring Plan (WMMP) Process and Content Guidelines. June 2019. Available at: https://www.enr.gov.nt.ca/sites/enr/files/resources/wmmp_process_and_content_guidelines_june_2019.pdf</p>
FRMG-16		FRMG recommends that PPML provide justification for the listing of observed Species of Concern at Pine Point.	<p>PPML is required to include a list of species with legislated protection under the federal <i>Species at Risk Act</i> and the territorial <i>Species at Risk (NWT) Act</i> by the Wildlife Management and Monitoring Plan Guidelines (GNWT 2019). Previous studies related to Indigenous knowledge and traditional land and resource use in the vicinity of the Project were reviewed and cited in the WMMP Version 1.1 (refer to Section 4.0). Species that may be present in the area with potential to interact with the Project were compared to federal and NWT species listing to develop the list of Species of Concern in the WMMP Version 1.1.</p> <p>Reference: GNWT (Government of the Northwest Territories). 2019. Wildlife Management and Monitoring Plan (WMMP) Process and Content Guidelines. June 2019. Available at: https://www.enr.gov.nt.ca/sites/enr/files/resources/wmmp_process_and_content_guidelines_june_2019.pdf</p>

Table A-4. Conformity Table for the Public Hearing on Version 1.0 of the WMMP and Addressed in Version 1.1.

Intervener	Subject	Recommendation	Response
FRMG-17		<p>FRMG recommends that PPML provide a fulsome assessment of all potential impacts to boreal caribou from the proposed Project, and the implications of these impacts for boreal caribou in the Pine Point herd. In particular, FRMG recommends that PPML adequately consider and account for the amount of habitat that will be disturbed on the site, both directly (i.e., direct habitat loss) and indirectly (i.e., at a minimum within 500 m of all disturbed habitat). This request is also reflected in the GNWT’s request that that PPML provide more detailed information on the specific locations, timing and frequency of activities proposed for this project, as well as an estimate of how much new habitat disturbance will occur as a result of project activities in order to properly assess impacts.</p>	<p>Potential effects of the Confirmation and Exploration Program on boreal caribou were included in the Screening-Level Environmental Assessment for the Confirmation and Exploration Program (Golder 2020) with additional information presented at the Technical Sessions (PPML 2021).</p> <p>In addition, the WMMP lists pathways of potential effects to all wildlife, and proposes mitigation for each (refer to Section 5.0). As per GNWT’s request, the WMMP Version 1.1 includes expanded mitigation and monitoring specific to boreal caribou. The focus of the additional mitigation within the WMMP is the avoidance of caribou and caribou habitat, and reducing direct and indirect effects. For example, PPML has also proposed the non-standard land use permit condition that “The Permittee shall not move any equipment or commence any drilling when one or more caribou is within five hundred (500) metres. Caribou and all wildlife shall be given the right of way at all times.” The WMMP Version 1.1 includes pre-activity surveys for caribou and caribou sign (refer to Section 6.6 and Appendix C). PPML has provided estimates on the area that might be affected by exploration activities, and clarified that approximately 90% of drilling activity will be within previously disturbed areas, as per the response to IR #8 from the Technical Session.</p> <p>References: Golder (Golder Associates Ltd.) 2020. Screening-Level Environmental Assessment for the Confirmation and Exploration Program. Pine Point Project. Submitted to Pine Point Mining Limited. November 2020. Available at: http://registry.mvlwb.ca/Documents/MV2020L8-0012/MV2020L8-0012%20MV2020C0017%20-%20PPML%20-%20Screening%20Impact%20Assessment%20-%20Nov27_20.pdf PPML (Pine Point Mining Ltd.). Confirmation and Exploration Program (CEP) MV2020L8-0012 MV2020C0017 Technical Session – Project Overview 24 and 25 February 2021. Available at: http://registry.mvlwb.ca/Documents/MV2020L8-0012/PPML%20-%20Technical%20Session%20Feb%2024-25,%202021%20-%20Presentation%20-%20Feb23_21.pdf</p>

Table A-4. Conformity Table for the Public Hearing on Version 1.0 of the WMMP and Addressed in Version 1.1.

Intervener	Subject	Recommendation	Response
FRMG-18		FRMG recommends that PPML include specific habitat mitigation measures for both direct and indirect habitat loss, including habitat offsetting at a sufficient ratio to address the impacts to boreal caribou habitat resulting from the proposed exploration within the project area.	<p>Mitigation to reduce impacts to caribou and caribou habitat is provided in Table 3 of the WMMP. According to the mitigation hierarchy (e.g., BBOP 2012), offsetting should only be considered after avoidance, followed by mitigation, followed by reduction of impacts. PPML is updating the Wildlife Protection Plan to implement additional measures to avoid and mitigate impacts to caribou, such that offsetting is not required for the Confirmation and Exploration Program.</p> <p>Reference: BBOP (Business and Biodiversity Offsets Programme). 2012. Standard on Biodiversity Offsets. BBOP, Washington, D.C. Available at: https://www.forest-trends.org/wp-content/uploads/imported/BBOP_Standard_on_Biodiversity_Offsets_1_Feb_2013.pdf</p>
FRMG-19		FRMG recommends that PPML provide clear methodology on the pre-clearing survey, including a maximum time between surveys and clear activities is established, sign definition, and threshold for sign age. FRMG knowledge holders are experts on the wildlife in this area. FRMG and other Indigenous monitors should be contracted to conduct any pre-clearing monitoring.	Refer to Section 6.6 and Appendix C of WMMP Version 1.1 for clarification of pre-clearing survey methodology. PPML intends to engage with the Fort Resolution Métis Government (FRMG) and other Indigenous groups to offer opportunities to be involved in the exploration activities at Pine Point.
FRMG-20		Considering that the majority of the project occurs on a brownfield site that has had natural regrowth, FRMG recommends that this requirement [for Pre-Clearing Surveys] be changed from greenfield areas to all project areas where there will be vegetation removal and disturbance.	PPML will conduct pre-clearing surveys in all instances where vegetation clearing is required (refer to Section 6.6). However, to minimize the area of disturbance, PPML will primarily undertake exploration within the extensive areas of Pine Point where there is no vegetation or where re-growth has not advanced to the stage where clearing is required.

Table A-4. Conformity Table for the Public Hearing on Version 1.0 of the WMMP and Addressed in Version 1.1.

Intervener	Subject	Recommendation	Response
FRMG-21		FRMG recommends that PPML develop a clear approach to monitoring dust fall and the application of dust mitigation measures, based on an adaptive management approach, including thresholds and triggers for enacting more stringent mitigation measures.	PPML is willing to discuss concerns related to dust with FRMG. PPML has included ‘dust suppression’ as a water use in the Water Withdrawal Plan to allow the use of road watering to minimize road dust. It should also be noted that this is an exploration program and not a mining operation where there would potential for increased levels of dust generation from haul trucks. Vehicle travel for an exploration program will consist of occasional trips by small vehicles driving at slow speeds. Regardless, PPML is preparing to undertake dust control mitigation and will discuss with FRMG in the context of a site visit so that actual dust emissions can be observed.
FRMG-22		Similar to GNWT’s request (IR 2), FRMG recommends PPML provides additional information on the noise suppression activities and mitigations that will be used on site in order for FRMG to assess their adequacy and potential impacts to boreal caribou and other wildlife in the area.	The WMMP Version 1.1 includes additional measures to avoid or minimize effects to boreal caribou, both spatially and temporally. The new measures will include new controls to avoid exploration activity if caribou are or may be in the vicinity. PPML will continue to work with FRMG to discuss wildlife monitoring and look for opportunities to include FRMG members in wildlife monitoring.

Table A-4. Conformity Table for the Public Hearing on Version 1.0 of the WMMP and Addressed in Version 1.1.

Intervener	Subject	Recommendation	Response
FRMG-23		<p>FRMG recommends that PPML develop a restoration standard that can be applied to all disturbed areas, including a requirement to revegetate sites using native vegetation. Furthermore, FRMG recommends that Indigenous knowledge holders, including FRMG members, should lead the restoration efforts to ensure that appropriate standards for reclamation are met across all disturbed areas. FRMG recommends that PPML update the Closure and Reclamation Plan to include this measure.</p>	<p>The Draft Water Licence includes a requirement for a Closure and Reclamation Plan to be submitted to the MVLWB for approval within 24 months of the effective date of the Water Licence. Closure planning will consider the Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories (MVLWB and AANDC 2013), which explicitly includes concepts such as revegetation, closure objectives and criteria, and inclusion of Indigenous knowledge. The Closure and Reclamation Plan will undergo its own review process and the FRMG and other reviewers will have opportunities for feedback into the plan through that process. Further, the Engagement Plan requires that PPML submit management plans to affected Parties for review prior to submission to the MVLWB.</p> <p>It should also be noted that PPML has proposed to develop a mine at Pine Point, and that closure planning should be considered in this context where further development is planned in the exploration areas. PPML also reiterates that the developer’s responsibility does not extend to remediation of prior disturbances.</p> <p>Reference: MVLWB (Mackenzie Valley Land and Water Board) and AANDC (Aboriginal Affairs and Northern Development Canada). 2013. Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories. Available at https://mvlwb.com/sites/default/files/documents/wg/WLWB_5363_Guidelines_Closure_Reclamation_WR.p</p>
FRMG-24		<p>FRMG recommends the PPML prepare a Wildlife Management and Monitoring plan per Section 95 of the Wildlife Act, working in collaboration with FRMG, GNWT-ENR, and other Indigenous governments in the region, to provide information needed to ensure sufficient mitigation measures are taken. We recognize that the GNWT has determined that a Tier 1 WMMP will be required and request that this WMMP be developed prior to the approval of the proposed Confirmation and Exploration program (CEP). FRMG further recommends that the WMMP be subject to approval by FRMG before any activity commences on the site.</p>	<p>GNWT-ENR has determined that the Project triggers Section 95 of the <i>Wildlife Act</i>, and thus the WMMP Version 1.1 requires approval by GNWT-ENR (GNWT 2021). Further review of the WMMP Version 1.1 is at the discretion of GNWT-ENR.</p> <p>Reference: GNWT (Government of the Northwest Territories). 2021. Wildlife Act Section 95(1) determination of the requirement for a Wildlife Management and Monitoring Plan for Pine Point Mining Ltd.’s Confirmation and Exploration Program. Available at: http://registry.mvlwb.ca/Documents/MV2020L8-0012/PPML%20-%20Wildlife%20Management%20and%20Monitoring%20Plan%20Determination%20-%20Apr30_21.pdf</p>

Table A-4. Conformity Table for the Public Hearing on Version 1.0 of the WMMP and Addressed in Version 1.1.

Intervener	Subject	Recommendation	Response
DKFN 1	Boreal Caribou	MVLWB to incorporate management guidelines and actions into permitting conditions for activities identified as affecting boreal caribou or their habitat.	<p>PPML believes that this recommendation has been incorporated into the application. Section 26(1) of the Mackenzie Valley Land Use Regulations allows the MVLWB to include permit conditions respecting ‘protection of wildlife habitat and fish habitat’. Using the MVLWB Standard Land Use Permit Conditions, PPML included the condition that ‘The Permittee shall take all reasonable measures to prevent damage to wildlife and fish habitat during this land-use operation.’ (Condition 43). PPML has also proposed the non-standard condition that, ‘The Permittee shall not move any equipment or commence any drilling when one or more caribou is within five hundred (500) metres. Caribou and all wildlife shall be given the right of way at all times.’ (Condition 83). Finally, GNWT-ENR has determined that the Project triggers Section 95 of the <i>Wildlife Act</i>, and thus the Wildlife Protection Plan requires approval by GNWT-ENR (GNWT 2021), and the WMMP contains reference to various relevant guidelines. The Deninu Kue First Nation (DKFN) did not identify any specific management guidelines.</p> <p>Reference: GNWT (Government of the Northwest Territories). 2021. Wildlife Act Section 95(1) determination of the requirement for a Wildlife Management and Monitoring Plan for Pine Point Mining Ltd.’s Confirmation and Exploration Program. Available at: http://registry.mvlwb.ca/Documents/MV2020L8-0012/PPML%20-%20Wildlife%20Management%20and%20Monitoring%20Plan%20Determination%20-%20Apr30_21.pdf</p>
DKFN 2		PPML, MVLWB, GNWT, DKFN and other Indigenous groups work together to understand the structure and function of the local boreal caribou population before more habitat is altered by the proposed mine-related activities.	<p>PPML agrees with this recommendation and looks forward to the opportunity to work in a collaborative environment with the GNWT, DKFN, and other Indigenous groups. However, this application is for an exploration program and not a mine development. PPML has offered to participate in any discussions regarding boreal caribou and their habitat, and has offered to participate in aerial population surveys led by GNWT-ENR and which are expected to also include participation by DKFN and other Indigenous groups. PPML has also included in the WMMP Version 1.1 expanded measures to avoid caribou and caribou habitat. Condition 43 of the proposed Land Use Permit requires that “The Permittee shall take all reasonable measures to prevent damage to wildlife and fish Habitat during this land-use operation.” PPML has also proposed the non-standard condition that “The Permittee shall not move any equipment or commence any drilling when one or more caribou is within five hundred (500) metres. Caribou and all wildlife shall be given the right of way at all times.” PPML will contact DKFN to discuss a site visit to tour the exploration areas, and avoidance of caribou habitat will be discussed during this visit.</p>

Table A-4. Conformity Table for the Public Hearing on Version 1.0 of the WMMP and Addressed in Version 1.1.

Intervener	Subject	Recommendation	Response
DKFN 3		<p>PPML, in collaboration with DKFN, conduct a reconnaissance of proposed investigation sites and access to confirm the presence of biophysical attributes important to boreal caribou. Where these are present, alternate investigation sites and/or access should be explored.</p>	<p>GNWT-ENR has suggested that PPML use the predictive resource selection function map prepared by GNWT-ENR (GNWT 2021). This map is included in the WMMP Version 1.1 to further review the proposed exploration and compare the exploration activities to the habitats and areas that caribou select (Section 6.1). The biophysical attributes listed by DKFN (mature forests, open coniferous habitat, spruce peatland and muskeg, black spruce forests with abundant lichens, and sedge and moss availability) are reflected in the resource selection function. Through the WMMP, PPML will plan how these areas can be avoided, and describe additional mitigation required before entering any such areas. For example, GNWT-ENR has required that “During the late-winter and calving season, PPML will conduct ground searches within 500m prior to clearing new work sites, prior to returning to previously cleared sites that have been dormant more than 2 days to start up drilling or pitting, or prior to any blasting activities.” This is now included in the WMMP Version 1.1 (Section 6.1).</p> <p>PPML will contact DKFN to discuss a reconnaissance of the investigation sites.</p> <p>Reference:</p> <p>GNWT (Government of the Northwest Territories). 2021. Wildlife Act Section 95(1) determination of the requirement for a Wildlife Management and Monitoring Plan for Pine Point Mining Ltd.’s Confirmation and Exploration Program. Available at: http://registry.mvlwb.ca/Documents/MV2020L8-0012/PPML%20-%20Wildlife%20Management%20and%20Monitoring%20Plan%20Determination%20-%20Apr30_21.pdf</p>

Table A-4. Conformity Table for the Public Hearing on Version 1.0 of the WMMP and Addressed in Version 1.1.

Intervener	Subject	Recommendation	Response
DKFN 4		PPML has stated "Cautionary Zones" will be used around sites of the exploration activity to limit effects on boreal caribou. Additional information is required on what these zones are and where they will be used.	<p>GNWT-ENR has determined that the Project triggers Section 95 of the <i>Wildlife Act</i>, and thus the WMMP requires approval by GNWT-ENR (GNWT 2021). GNWT-ENR provided additional guidance to PPML on the 'Cautionary Zones'. The WMMP Version 1.1 incorporates this new guidance from GNWT-ENR to provide more detail on how the Cautionary Zones are defined and what additional measures they trigger (refer to Section 6.1 of WMMP).</p> <p>Reference: GNWT (Government of the Northwest Territories). 2021. Wildlife Act Section 95(1) determination of the requirement for a Wildlife Management and Monitoring Plan for Pine Point Mining Ltd.'s Confirmation and Exploration Program. Available at: http://registry.mvlwb.ca/Documents/MV2020L8-0012/PPML%20-%20Wildlife%20Management%20and%20Monitoring%20Plan%20Determination%20-%20Apr30_21.pdf</p>
DKFN 5		PPML to provide an updated version of the Wildlife Protection Plan/Wildlife Management and Monitoring Plan prior to the water license and land use permit being issued.	<p>GNWT-ENR has determined that the Project triggers Section 95 of the <i>Wildlife Act</i>, and thus the WMMP requires approval by GNWT-ENR (GNWT 2021). The WMMP Version 1.1 incorporates recommendations provided during the review process.</p> <p>Reference: GNWT (Government of the Northwest Territories). 2021. Wildlife Act Section 95(1) determination of the requirement for a Wildlife Management and Monitoring Plan for Pine Point Mining Ltd.'s Confirmation and Exploration Program. Available at: http://registry.mvlwb.ca/Documents/MV2020L8-0012/PPML%20-%20Wildlife%20Management%20and%20Monitoring%20Plan%20Determination%20-%20Apr30_21.pdf</p>

Table A-4. Conformity Table for the Public Hearing on Version 1.0 of the WMMP and Addressed in Version 1.1.

Intervener	Subject	Recommendation	Response
DKFN 6		Environment and Climate Change Canada has informed the MVLWB that PPML must apply for a permit under section 73 of the Species at Risk Act (SARA) for the Project. Details on what species are covered under this permit is required.	<p>PPML refers DKFN to ECCC #9 within the ECCC Intervention (ECCC 2021), which clarifies that a permit under Section 73 of the <i>Species At Risk Act</i> is triggered by boreal caribou and the federal land at Pine Point. PPML has submitted this permit application to ECCC.</p> <p>Reference: ECCC (Environment and Climate Change Canada). 2021. Environment and Climate Change Canada’s Intervention to the Mackenzie Valley Land and Water Board Respecting the Pine Point Mining Limited Confirmation and Exploration program Land Use Permit and Water Licence Application. May 4, 2021. Available at: http://registry.mvlwb.ca/Documents/MV2020C0017/PPML%20-%20Intervention%20from%20ECCC%20-%20May4_21.pdf</p>
DKFN 9		PPML only construct sumps where suitable soils are present.	<p>PPML refers the DKFN and the MVLWB to the proposed Land Use Permit Conditions 35 to 39, which refer specifically to the management of drill cuttings. Condition 36 confirms that drill sumps must be at least 100 metres from water, and in natural depressions. If suitable ground is not present at the drilling location, the cuttings are collected and transported for disposal in disturbed areas with suitable ground. All operations and management of sumps and drill cuttings are overseen by the GNWT Lands Inspector. It should be noted only a very small volume of material is deposited in these sumps, estimated at approximately 30 cubic centimeters of dry cuttings per drill hole.</p> <p>To clarify, this refers to inert drill cuttings only. Other forms of drill waste, such as oil and grease, are managed as hazardous materials under the Waste Management Plan.</p>
DKFN 10		PPML implement the post-construction tracking of sumps that includes accurate descriptions of the sump location, soil conditions and type of drilling waste stored in the sump.	PPML documents the location of all sumps, and will provide this information in the WMMP Annual Report. PPML reiterates that the volume of material is minor, estimated at approximately 30 cubic centimetres of dry drill cuttings per drill hole.
DKFN 11		PPML to clearly identify sumps should in the field until the site has been decommissioned.	PPML documents the location of all sumps, and will provide this information in the WMMP Annual Report. PPML will discuss this recommendation further with DKFN as PPML anticipates future development in the vicinity of the sumps. PPML reiterates that the volume of material is minor, estimated at approximately 30 cubic centimetres of dry drill cuttings per drill hole.

Table A-4. Conformity Table for the Public Hearing on Version 1.0 of the WMMP and Addressed in Version 1.1.

Intervener	Subject	Recommendation	Response
KFN 1		KFN continues to recommend that no disturbance areas occur within 500 metres of the Ejie Tue Dehe (Buffalo River). There is at least one drill site within 500 metres of the Buffalo River. KFN recommends that this site be removed from consideration.	PPML confirms that Condition 52 of the draft Land Use Permit conditions requires that “The Permittee shall not conduct any activity within 500 metres of the Buffalo River.” Likewise the Water Withdrawal Plan excludes all sources within 500 metres of the Buffalo River. For the site referred to, PPML would like to discuss with KFN possible options for investigating this deposit.
KFN 2		PPML provided KFN with information on where the drill sites/boreholes will be located, however, there is currently no information on where the road network to access the sites will be located. KFN further recommends that PPML indicate road location and if roads will be sited on linear disturbances (that have not been revegetated). If roads will be sited on linear disturbance, KFN further recommends that PPML indicate how many kms will be sited on previous linear disturbances versus new access.	PPML has provide shapefiles of the CEP target areas, and will report on the location of all drill sites and access roads in the WMMP Annual Report. Specific information such as anticipated drill site locations cannot be provided in the context of an exploration program, which must necessarily remain flexible and able to respond to results from exploration as they become available. Access to drill sites will favour the many unvegetated roads and trails at Pine Point. Doing so makes sense both from an environmental and economic perspective. New linear disturbances will likely be measured in metres or tens of metres rather than hundreds of metres or kilometres, and road networks are not proposed or required. PPML will select the access route to a drilling site that requires the least amount of vegetation clearing. PPML also directs the KFN to the proposed Condition 4 of the draft land use permit, which requires submission of drill target areas to the Board and Inspector, so the information will be public.

Table A-4. Conformity Table for the Public Hearing on Version 1.0 of the WMMP and Addressed in Version 1.1.

Intervener	Subject	Recommendation	Response
KFN 3		KFN supports the GNWT’s recommendation that PPML work with the GNWT to conduct a population survey to determine how many boreal caribou occur within the project area. PPML has indicated that they will work with PPML on this issue. KFN recommends that a KFN member take part in these population surveys as they take part in any population survey that occurs within the KFN Traditional Territory.	PPML looks forward to working with K’at’odeeche First Nation (KFN), other Indigenous governments and the GNWT-ENR on a caribou survey. PPML will defer to GNWT-ENR as the survey lead regarding participation by members of the various Indigenous governments.
KFN 4		PPML has not characterized the potential habitat loss from the Project. In particular, the effects to winter and calving habitat are not sufficiently characterized, the effects of impacts to seasonal movement corridors are not included, and the thresholds of significance for habitat loss and other pathways of impact are not sufficient. The proposed monitoring and mitigation measures are not adequate to address the project effects with respect to the potential impacts of the CEP on boreal caribou. KFN recommends that PPML complete a Wildlife Mitigation and Monitoring Plan that includes information on potential habitat loss from the project and effects to winter and calving habitat. The plan should include a Dene-centric perspective of the potential significance of habitat loss, fragmentation and mortality from the project on Boreal Caribou. The plan should further identify mitigation measures, program monitoring to assess if the mitigation measures are working and adaptive management.	The WMMP will be provided to GNWT-ENR for approval under Section 95 of the <i>Wildlife Act</i> , and following the Wildlife Management and Monitoring Plan Process and Content Guidelines (GNWT-ENR 2019). The updated version will incorporate the additional recommendations provided by KFN and the other Indigenous governments through this regulatory process. A key principle of the WMMP is the avoidance of caribou and caribou habitat, achieved through working within existing disturbed areas whenever possible, maximizing the use of existing infrastructure such as highways 5 and 6, roads, and existing cutlines where practicable and adjusting the exploration areas to avoid caribou habitat and adjust the work schedule to avoid caribou presence. Refer to Section 6.1 of the WMMP for detailed methods on the measures that will be taken to avoid caribou and caribou habitat.

Table A-4. Conformity Table for the Public Hearing on Version 1.0 of the WMMP and Addressed in Version 1.1.

Intervener	Subject	Recommendation	Response
KFN 5		KFN recommends support for KFN and KFN community members to engage in ongoing collaboration with the proponent to further develop the monitoring plan and develop standards and conditions for minimizing project activities.	PPML agrees with this recommendation. Opportunities for engagement and collaboration have been hampered for the past year by the COVID-19 pandemic, but PPML looks forward to once again meeting with KFN to discuss both concerns and opportunities for the KFN as the Project develops. PPML continues to engage with KFN regarding employment opportunities and involvement in environmental programs.
KFN 6		KFN recommends that that the Annual Report provides an update on the drill sites, roads and trails, boreholes and sumps or any other disturbance that has been developed over the last year. KFN further recommends that PPML provide an update on the amount of reclamation that has occurred onsite compared to the total amount of disturbance, which includes photos of the sites and their recovery.	PPML agrees with this recommendation, and notes that these requests are a requirement of the Water Licence Annual Report, as proposed in the draft Water Licence Conditions suggested by PPML.

Table A-4. Conformity Table for the Public Hearing on Version 1.0 of the WMMP and Addressed in Version 1.1.

Intervener	Subject	Recommendation	Response
KFN 7		<p>KFN recommends that the first method for the protection of boreal caribou is avoiding damage and disturbance to boreal caribou habitat to the greatest extent possible. Recovery of usable habitat is questionable and can take a significant period of time. In the case of the reclamation of roads, PPML currently does not have any definitive plans on when or if roads will be reclaimed, KFN considers that the roads will be on the landscape for at least 20 years or potentially in perpetuity. Golder Associates developed a Boreal Caribou Habitat Restoration Toolkit for address restoration of boreal caribou habitat (http://www.bccogris.ca/sites/default/files/bci-p-2018-04-boreal-caribou-restoration-framework-final.pdf). This toolkit contains a summary of habitat restoration treatments that area specific to disturbance features within boreal caribou habitat, designed to limit humans/predators/primary prey (i.e. moose) access and to allow for regeneration to native species. KFN recommends that Golder's approach be used for roads that are developed but are not going to be used in the future.</p>	<p>As stated in the response to KFN 4, avoidance of caribou and caribou habitat is included in the WMMP Version 1.1. PPML will incorporate the Boreal Caribou Habitat Restoration Toolkit in the WMMP (refer to Table 3) and in the next version of the Closure and Reclamation Plan.</p>

Appendix B:

Statutory Requirements



Statutory Requirements for Wildlife in the NWT

July 2019

DISCLAIMER

This document is provided as an aide to developers drafting WMMPs to highlight those sections of the Northwest Territories *Wildlife Act* and *Species at Risk (NWT) Act* that most commonly apply to development activities. This is not an exhaustive list and other sections of these Acts may apply. The developer is responsible for familiarizing themselves with these Acts and current regulations.

The developer is also responsible for ensuring their activities comply with relevant federal legislation, including the Migratory Birds Regulations under the *Migratory Birds Convention Act* and the federal *Species at Risk Act*.

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Wildlife Act

Topic	Section of <i>Wildlife Act</i>	Notes
Birds and nests	51. (1) Subject to section 17, no person shall, unless authorized by a licence or permit to do so, destroy, disturb or take (a) an egg of a bird; (b) the nest of a bird when the nest is occupied by a bird or its egg; or (c) the nest of a prescribed bird.	s. 5.3 and Schedule B of the Wildlife General Regulations sets out prescribed birds to include raptors from the following families: <ul style="list-style-type: none"> • Falconiformes • Strigiformes • Accipitriformes <p>51. (1) (c) of the NWT <i>Wildlife Act</i> does not specify the nest has to be active and applies year round.</p>
Wildlife abodes	51. (2) Subject to section 17, no person shall, unless authorized by a licence or permit to do so, break into, destroy or damage a den, beaver dam or lodge, muskrat push-up or hibernaculum.	As per s. 5.4 (1) and (2) of the Wildlife General Regulations, this applies to naturally-occurring bats roosts. This section applies to any occupied or unoccupied den, beaver dam or lodge, muskrat push-up or hibernaculum.
Disturbance and harassment	52. Subject to section 17, no person shall, unless authorized by a licence or permit to do so, (a) engage in an activity that is likely to result in a significant disturbance to big game or other prescribed wildlife; or (b) unnecessarily chase, fatigue, disturb, torment or otherwise harass game or other prescribed wildlife.	"big game" means species of wildlife prescribed as big game, or an individual of a species of big game; Schedule A – Part 1 of the Wildlife General Regulations, sets out the species prescribed as big game, and Schedule B sets out prescribed wildlife for the purpose of paragraphs 52 (a) and (b) of the Wildlife Act.
Chasing Wildlife	55. Notwithstanding any other provision of this Act or the regulations, a person may chase wildlife away from a dwelling place, camp, work site, municipality or unincorporated community, or its immediate vicinity, if doing so is necessary to prevent injury or death to a person or damage to property.	"wildlife" means (a) all species of vertebrates and invertebrates found wild in nature in the Northwest Territories, and individuals of those species, except (i) fish as defined in section 2 of the <i>Fisheries Act</i> (Canada), and (ii) other prescribed species and subspecies, (b) species of wildlife referred to in paragraph (a) that are domesticated or held in captivity, and individuals of those species, and (c) prescribed species or subspecies of vertebrates and invertebrates, and individuals of those species or subspecies.

Defence of life and property	<p>56. (1) Notwithstanding any other provision of this Act or the regulations but subject to subsection (4), a person may harvest and consume wildlife or take and consume the eggs of birds if it is necessary to prevent starvation of a person.</p> <p>(2) Notwithstanding any other provision of this Act or the regulations but subject to subsection (4), a person may kill wildlife if it is necessary to prevent injury or death to a person.</p> <p>(3) Notwithstanding any other provision of this Act or the regulations but subject to subsection (4) and any regulations specified as applying in respect of this section, a person may kill wildlife if it is necessary to prevent damage to property.</p> <p>(4) Subsections (1), (2) and (3) do not provide a defence to a contravention of this Act or the regulations for a person who resorts to harvesting or killing wildlife as a result of his or her mismanagement.</p>	
Reporting	<p>57. Subject to the regulations, a person shall, as soon as is practicable, report the harvest or kill of big game or other prescribed wildlife to an officer, if</p> <p>(a) under section 56, the person harvested big game or other prescribed wildlife to prevent starvation, or killed big game or other prescribed wildlife to prevent injury or death to a person or damage to property; and</p> <p>(b) the harvest or kill would, but for subsection 56(1), (2) or (3), be a contravention of this Act or the regulations.</p>	Section 7 of the Wildlife General Regulations describes what information must be included in the report.
Accidental kill or wounding	<p>58. A person who, with a motorized vehicle, accidentally kills or seriously wounds big game or other prescribed wildlife on a highway as defined in section 1 of the <i>Motor Vehicles Act</i>, shall report the event to an officer within the time fixed in the regulations.</p>	Sub-section 8(1) of the Wildlife General Regulations specifies that any person who accidentally kills or seriously wounds big game or other prescribed wildlife with a motorized vehicle on a highway must report the event to an officer within 24 hours after the incident.
Feeding wildlife	<p>65. (1) Subject to subsection (2), no person shall intentionally feed big game, fur-bearers or other prescribed wildlife.</p> <p>(2) Subsection (1) does not apply in respect of a person feeding wildlife lawfully kept in captivity or in circumstances permitted by the regulations.</p>	Schedule A – Part 2 of the Wildlife General Regulations sets out the species prescribed as fur-bearers

Wildlife Attractants	<p>66. (1) No person shall deposit, place or leave in, on or about land or premises food, food waste or another substance if there is a reasonable likelihood that it could attract big game or other prescribed wildlife to the land or premises and endanger a person, a domestic animal or wildlife.</p> <p>(2) Subsection (1) does not apply in respect of</p> <p>(a) the drying or caching of meat, pelts or hides, except in a manner contrary to regulations respecting the treatment, caching and identification of wildlife and parts of wildlife left temporarily on the land;</p> <p>(b) a person lawfully harvesting fur-bearers with bait; or</p> <p>(c) other persons and circumstances exempted by the regulations.</p>	
Damage to habitat	<p>93. (1) No person shall substantially alter, damage or destroy habitat.</p> <p>(2) A person who establishes that he or she acted with legal justification in altering, damaging or destroying habitat shall not be convicted of an offence under subsection (1).</p>	<p>“habitat” means the area or type of site where a species or an individual of a species of wildlife naturally occurs or on which it depends, directly or indirectly, to carry out its life processes;</p>
Requirement for Wildlife Management and Monitoring Plan	<p>95. (1) A developer or other person or body may be required, in accordance with the regulations, to prepare a wildlife management and monitoring plan for approval by the Minister, and to adhere to the approved plan, if the Minister is satisfied that a development, proposed development, or other activity is likely to</p> <p>(a) result in a significant disturbance to big game or other prescribed wildlife;</p> <p>(b) substantially alter, damage or destroy habitat;</p> <p>(c) pose a threat of serious harm to wildlife or habitat; or</p> <p>(d) significantly contribute to cumulative impacts on a large number of big game or other prescribed wildlife, or on habitat</p>	<p>Regulations.13.1-13.3 of the Wildlife General Regulations define prescribed species as territorially managed wildlife (not migratory birds or fish) assessed or legally listed as species at risk under federal or NWT legislation.</p> <p>Information on species at risk in the NWT can be found at the NWT Species at Risk website.</p> <p>Please consult the WMMP Guidelines www.enr.gov.nt.ca/en/services/legislation-and-regulations for information about when a WMMP is required and how to develop a WMMP.</p>
Contents of the Wildlife Management and Monitoring Plan	<p>95. (2) A wildlife management and monitoring plan must include</p> <p>(a) a description of potential disturbance to big game and other prescribed wildlife, potential harm to wildlife and potential</p>	

	impacts on habitat; (b) a description of measures to be implemented for the mitigation of potential impacts; (c) the process for monitoring impacts and assessing whether mitigative measures are effective; and (d) other prescribed requirements.	
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Species at Risk (NWT) Act

Topic	Section of the Act or Regulations	Notes
Designated Habitat	80. No person shall destroy any part of designated habitat.	
Species conservation	151. (1) The Commissioner, on the recommendation of the Minister, may make regulations respecting the conservation of pre-listed species or listed species, including but not limited to (a) requiring the doing of things that may conserve the species; (b) prohibiting activities that may adversely affect the species; (d) imposing prohibitions against (i) killing, harming, harassing, capturing or taking an individual of a species,	For up-to-date information on Regulations and Permits issued under the Act go to nwtspeciesatrisk.ca/en/Regulations
Habitat conservation	152. The Commissioner, on the recommendation of the Minister, may make regulations respecting the conservation of habitat of pre-listed species or listed species or the area in which the habitat is located or the surrounding area, including but not limited to (a) requiring the doing of things that may conserve the habitat or area; (b) prohibiting activities that may adversely affect the habitat or area; (c) imposing prohibitions against damaging or destroying the habitat or area; (d) controlling, restricting or prohibiting any use of, access to, or activity in the habitat or area; and (e) controlling, restricting or prohibiting the release of any substances in or into the habitat or area.	For up-to-date information on Regulations and Permits issued under the Act go to nwtspeciesatrisk.ca/en/Regulations

Designating habitat	153. (1) The Commissioner, on the recommendation of the Minister, may, by regulation, designate habitat, or a component or combination of components of habitat, of a pre-listed species or a listed species.	For up-to-date information on Regulations and Permits issued under the Act go to nwtspeciesatrisk.ca/en/Regulations
Designated habitat	154. The Commissioner, on the recommendation of the Minister, may make regulations respecting the conservation of designated habitat or the area in which designated habitat is located or the surrounding area, including but not limited to (a) requiring the doing of things that may conserve the designated habitat or area; (b) prohibiting activities that may adversely affect the designated habitat or area; (c) imposing prohibitions against damaging the designated habitat or area; (d) controlling, restricting or prohibiting any use of, access to, or activity in the designated habitat or area; and (e) controlling, restricting or prohibiting the release of any substances in or into the designated habitat or area.	For up-to-date information on Regulations and Permits issued under the Act go to nwtspeciesatrisk.ca/en/Regulations

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Appendix C:

Protocols and Datasheets

Caribou Monitoring Procedure

Purpose

The purpose of this procedure is to describe when and what monitoring and mitigation will be implemented to limit effects on caribou.

Responsibility

Pine Point Mining Limited (PPML) has requested that the Government of the Northwest Territories-Environment and Natural Resources (GNWT-ENR) provide caribou satellite collar location data every two (2) days during the late winter and calving seasons (16 March to 15 July). PPML will inform ENR on a regular basis (beginning of every week during late winter, during calving and monthly if otherwise) of where operations are currently occurring and planned to occur during that period.

PPML staff are responsible for completing the pre-clearing surveys and entering them into a database. Surveys will be overseen by the environmental manager. Surveys will be led by a qualified biologist or by a trained local community environmental field technician.

Procedure

Caribou Seasonal Periods

Although boreal caribou may be sensitive to disturbance from exploration activities throughout the year, GNWT-ENR considers there to be two key periods when boreal caribou should receive additional protection from sensory disturbance to increase the likelihood of successful calving and thus recruitment of new individuals into the population. The following sensitive periods are based on the seasonal activity periods reported in Table 6 in the *Status Report for Boreal Caribou in the NWT* (Species at Risk Committee 2012), but some year-to-year variation should be expected based on snow and weather conditions:

- Late-winter (16 March – 04 April): Boreal caribou are exhibiting their shortest daily movements at this time of year, likely reflecting the increased energetic costs of travelling through deep snow or limited areas that provide easier access for foraging on ground lichens (e.g., wind-swept areas and closed canopy forests with shallow snow). As boreal caribou are depleting their stores of fat throughout the winter, and movement through deep snow or displacement from good foraging habitat could have high energetic costs, disturbance events at this time of year could have negative impacts on female body condition and, subsequently, calf survival.
- Calving/Post Calving (05 April – 15 July): Female boreal caribou spread out during the pre-calving period (05-30 April) and increase daily movements to find suitable calving locations. Once a calving location is selected, daily movement rates drop considerably during calving (30 April – 06 June). During the calving period, sensory disturbances may cause energetic stress to the calving female or cause the calving female to flee and leave her calf temporarily, which may reduce the probability of calf survival. Caribou tend to avoid suitable calving

locations that are close to sensory disturbance from development (Carr et al. 2007; Schaefer and Mahoney 2007; Vors et al. 2007; Vistnes and Nellemann 2008), so they may avoid calving close to active exploration activities. However, in instances where exploration activities may advance upon, or be close to, an area where a female has chosen to calve, displacement of the female from that area could have negative impacts on calf survival. Calves appear to be most vulnerable to predation during the first six weeks after birth (Pinard et al. 2012), therefore the calving season includes the period up to 15 July (i.e., to address the case that calves are born as late as 30 May).

Boreal caribou are considered less sensitive to sensory disturbance at other times of the year, as they are moving greater distances on a daily basis and will likely avoid active exploration areas or move away from them quickly if they encounter them.

Areas of Interest for Exploration

Most of the areas that will be explored by PPML will be within the highly disturbed areas of PPML leases that are avoided by the Pine Point boreal caribou herd (as indicated by 2015 to 2020 satellite collar data). However, for the purposes of this monitoring procedure, this monitoring procedure covers all areas of exploration activities by PPML.

Use of Caribou Collar Location Maps to Guide Activity

PPML will only consider commencing pre-clearing surveys, exploration, blasting, and other disturbance activities if satellite collar data indicates that there are no collared caribou within pre-defined “Cautionary Zones” around sites of the exploration activity (Table 1). These Cautionary Zones are pre-defined spatial buffer areas around exploration sites that will:

- Reduce sensory disturbance and unnecessary energy expenditure by caribou during the most sensitive periods (i.e., late-winter and calving);
- Avoid sensory disturbance that would reduce the likelihood of calf survival during the calving period; and,
- Avoid injury or mortality of caribou.

Cautionary Zones for sensitive and less sensitive periods for caribou are presented in Table 1.

Table 1: Cautionary Zones and Search Zones Around Exploration Sites and Resulting Mitigation During Boreal Caribou Seasons

Boreal Caribou Period ¹	Cautionary Zone ²	Search Zone ²	Mitigation
<i>Late Winter</i> (16 March to 04 April)	2 km	500 m	If collared caribou are within the Cautionary Zone, entry to new exploration sites or entry to sites that have been dormant for more than 2 days (dormant sites) will be delayed or suspended within the Cautionary Zone until there are no more collared caribou data within the Cautionary Zone or, a pre-clearing survey search for caribou and fresh caribou sign within 500 m of the site is conducted to confirm absence prior to clearing new work sites and prior to returning to dormant sites (i.e. before starting up drilling, pitting or prior to any blasting activities). Exploration activities may be delayed or suspended in the area concerned if fresh caribou sign or individuals are observed within 500 m of the exploration site. Pre-clearing surveys to look for caribou and caribou sign may be completed daily until no new caribou sign or individuals are observed within 500 m and collar data indicates that there are no collared individuals in the Cautionary Zone. Pre-clearing surveys will be conducted within 500 m of the exploration site even if no caribou collar location data occur in the Cautionary Zone, to confirm absence prior to exploration activities.
<i>Calving/Post-calving</i> (05 April to 15 July)	2 km	500 m	If collared caribou are within the Cautionary Zone, entry to new exploration sites or entry to sites that have been dormant for more than 2 days (dormant sites) will be delayed or suspended within the Cautionary Zone until there are no more collared caribou data within the Cautionary Zone. Then PPML will initiate a pre-clearing survey within 500 m of exploration activities to verify that no boreal caribou are present. These surveys will be completed prior to entering new exploration areas, as well as dormant sites. Pre-clearing surveys will be conducted within 500 m of the exploration site even if no caribou collar location data occur in the Cautionary Zone, to confirm absence prior to exploration activities.
Summer, Fall, Early to Mid-Winter (16 July to 15 March)	500 m	500 m	PPML will initiate a pre-clearing survey within 500 m of exploration activities to verify that no boreal caribou are present. If caribou are observed during the pre-clearing survey, or visually observed within 500 m of exploration crews, operations will be temporarily suspended in the immediate vicinity to allow wildlife to move away from the area of their own accord. If a caribou is reluctant to leave the area, this could be a sign that it is a female that is hiding a calf in close proximity. If this is the case, exploration activities will be suspended and the regional GNWT-ENR biologist will be contacted for advice.

km = kilometres; m = metres; <= less than; ≥ = great than or equal to

1 Caribou periods that are *italicized* are “sensitive” period

2 Distances are from the centre of the disturbance site (i.e., radii).

Caribou collar data will be supplemented by ground-based pre-clearing surveys during the late winter and calving/post calving sensitive periods for caribou (Figure 1, Figure 2).

Figure 1: Late Winter Caribou Mitigation and Monitoring Protocol

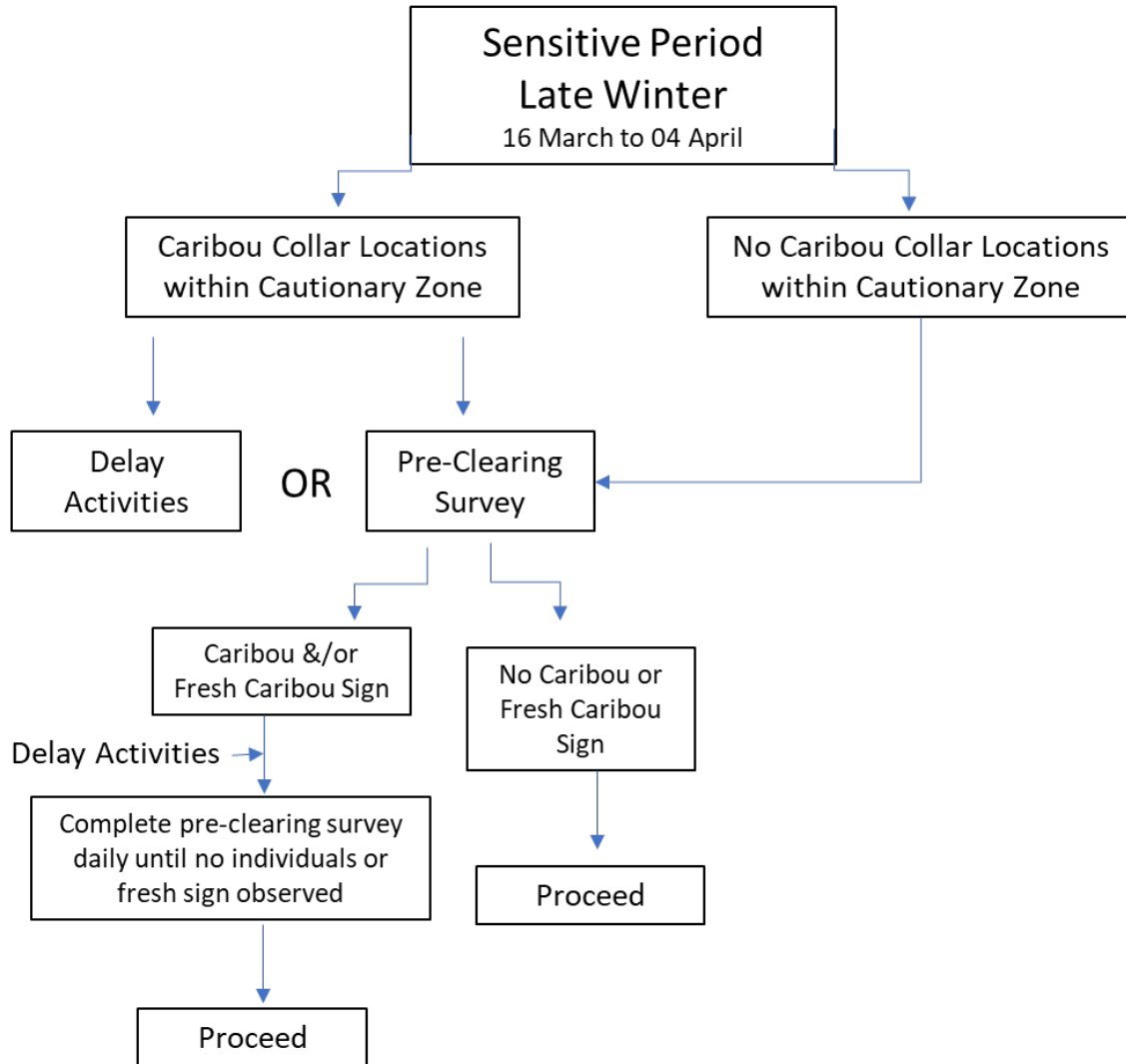
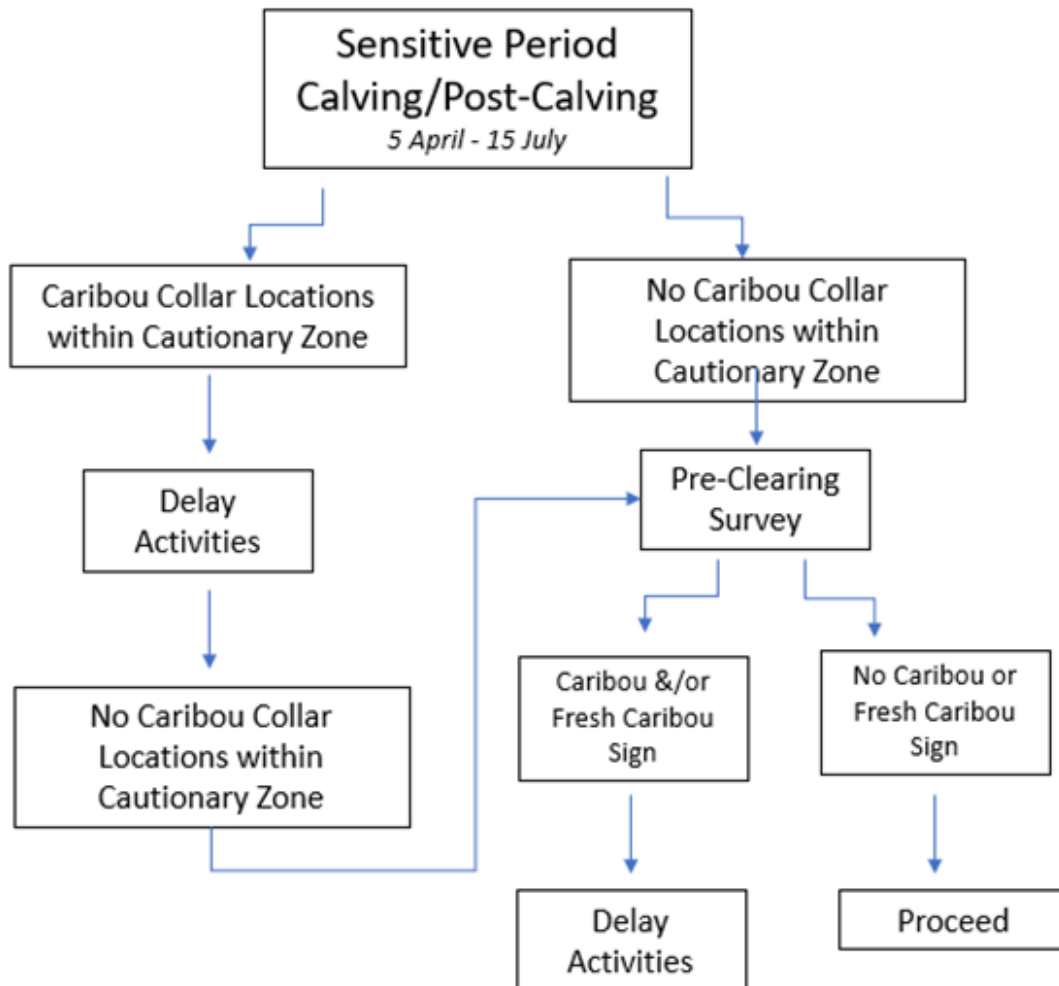
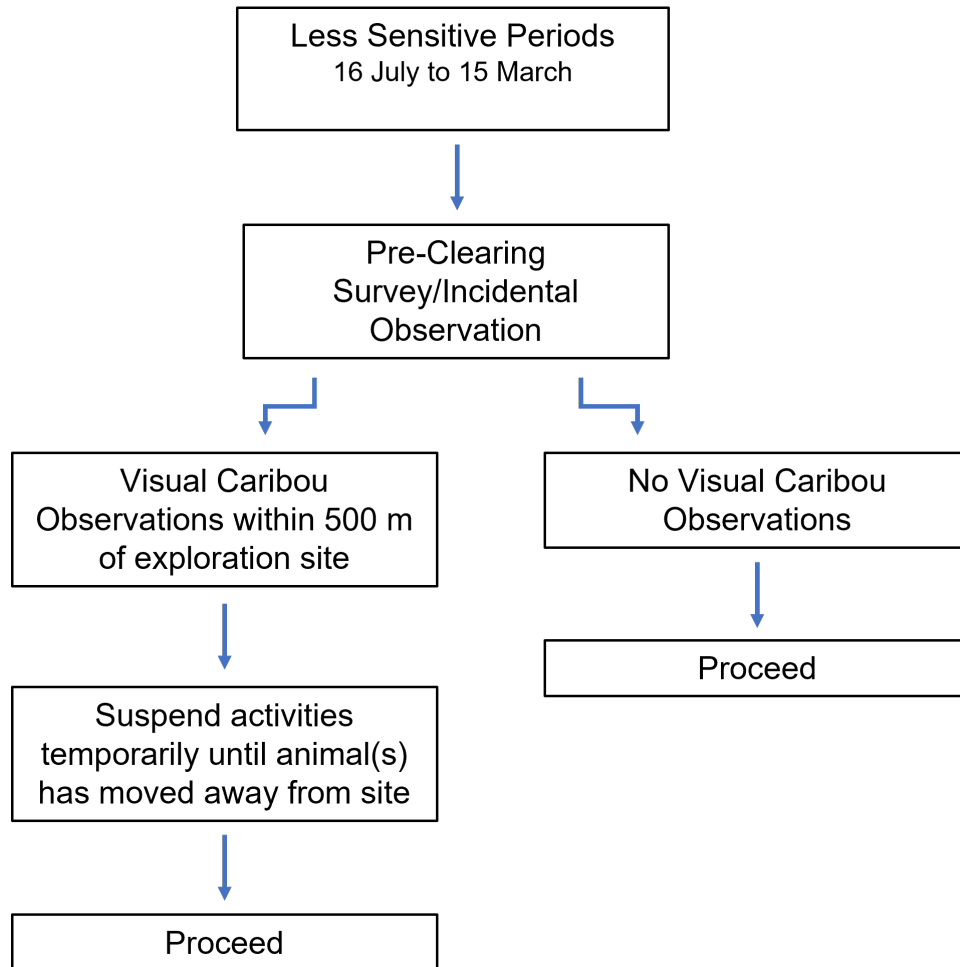


Figure 2: Sensitive Caribou Calving/Post-Calving Period Mitigation and Monitoring Protocol



During the remaining, less sensitive seasons of the year (16 July to 15 March), exploration activities will be suspended if caribou are observed during a pre-clearing survey, or incidentally observed by exploration crews within 500 m of the area. Activities will be resumed after the animal has moved away from the exploration site (Figure 3).

Figure 3. Less Sensitive Periods for Caribou Mitigation and Monitoring Protocol

Pre-Clearing Surveys

- 1) PPML staff will survey the area to be cleared or where blasting will take place, plus a 500 m buffer, by foot, ATV, snow machine, or truck. PPML staff should aim to survey areas to be cleared just prior to the vegetation clearing.
- 2) PPML staff will search the entire area to be cleared and 500 m buffer by completing transects throughout the entire area. Areas walked will be recorded using GPS units to ensure the entire area has been surveyed.
- 3) Any caribou or sign observed in or within 500 m of the area to be cleared or of blasting activities will be documented and reported to the environmental manager.
- 4) Surveyors may suggest alternate locations or access routes to avoid important biophysical attributes for boreal caribou.
- 5) For each day of surveys, the following information will be recorded using the datasheet provided:
 - start and finish coordinates and times
 - observer names

- wildlife or wildlife sign observed – flagging tape will be placed near the sign observation so that these are not re-counted during subsequent surveys
- estimate age of wildlife sign (e.g., days since last snowfall for fresh wildlife tracks)

Environmental monitors may also suggest alternate routes or locations to avoid impacts to biophysical attributes important to boreal caribou. This includes late seral-stage (> 50 years old) conifer forest (jack pine, black spruce, tamarack); treed peat lands, muskegs or bogs; dry islands in the middle of muskegs with abundant lichens; hilly or higher ground and small lakes (from the Amended Recovery Strategy for the Woodland Caribou, Boreal population, in Canada, Environment Canada 2019). Communications with the environmental manager and any follow up actions will also be documented.

Equipment Required

- Datasheets
- GPS
- Project map
- Transect lines
- Digital camera
- Satellite collar data to be provided by the GNWT-ENR.
- Flagging tape and marker pens

Reporting

A summary of the number of times that caribou collar locations overlapped with cautionary zones and how often activities are suspended or additional mitigation measures were triggered will be provided in the Annual Report, which will be provided to GNWT-ENR and Environment and Climate Change Canada (ECCC).

Wildlife Sightings Procedure

Purpose

The purpose of this procedure is to describe the management of the wildlife sightings that are observed during the construction and operation phases of the Project.

Responsibility

All staff are responsible for reporting wildlife sightings. PPML staff are responsible for collecting the log sheets weekly and entering them into a database. PPML staff are also responsible for entering wildlife observations reported by radio into the log sheets. Wildlife sightings and observations will be communicated daily by PPML staff during daily tailgate meetings.

Procedure

- 1) Wildlife sighting logs will be posted on various bulletin boards in camps and work areas for Project staff to record observations of wildlife.
- 2) Project staff will be made aware of which species are a priority to report.
- 3) All Project staff will be encouraged to add observations to the log, including the species, number, location, and date of the observation.
- 4) PPML staff will check the logs daily for evidence of problem wildlife or problem areas that may pose a risk to wildlife.
- 5) Observations of wildlife may be called in by radio and entered into the Wildlife Sightings Log by PPML staff.

Equipment Requirements

None. Data sheets to be posted for use by all Project staff.

Reporting

Observations relevant to human or wildlife safety, such as observations of bears, caribou, moose, bison, species at risk, roosting bats, or nesting birds, will be included in the internal Weekly Report. Copies of all Wildlife Sightings Logs will be provided in the internal Weekly Report. All information including surveys and monitoring will be summarized in the Annual Report, which will be provided to GNWT-ENR and ECCC.

PPML will submit all data annually to the ENR Wildlife Management Information System (WMISTeam@gov.nt.ca).

Wildlife Surveillance Monitoring Procedure

Purpose

To prevent wildlife incidents through systematically documenting wildlife activity.

Responsibility

PPML staff are responsible for completing surveys of the camp and waste management areas for evidence of wildlife presence and entering them into a database.

Procedure

PPML staff will undertake systematic tours of the Project camp and waste management areas to record all wildlife observations or recent wildlife sign (e.g., tracks and scat). Surveys will be completed at least once per week. Observers will travel to defined Project locations, and record the following at each location:

- 1) Time upon arrival at location / monitoring site.
- 2) Location or monitoring site; with reference to closest exploration site label/number.
- 3) Presence of wildlife or wildlife sign (Yes or No).
- 4) Species or sign observed.
- 5) Number of individuals.
- 6) Wildlife activity.
- 7) Photo number (if photo taken).
- 8) Any relevant comments about the observation, or relevant information from people working at the location.
- 9) Observations of any birds nesting or mammals denning adjacent to the cleared right of way or access roads.
- 10) Any relevant comments about improper storage or segregation of wastes or other wildlife attractants, any evidence of wildlife gaining access to wastes or attractants, and any reports of dangerous wildlife interactions from people working at the location.
- 11) Wildlife sign (such as tracks or scat) or observations of wildlife from Project staff working in the area (in the additional comments section on the reverse side of the data sheet). Photos of sign and wildlife should be taken where possible to help in identification of species after completion of the survey.
- 12) Photo number on the data sheet and download and file the photos by date.
- 13) If no wildlife is observed, no sign seen, and no reports of wildlife from staff, then an “N” should be recorded on the data sheet and in the database for that monitoring site or location.

Locations for Systematic Monitoring

The following areas / sites should be visited at least once a week:

- camp (entire perimeter)
- waste management areas (entire perimeter)

Equipment Requirements

- truck
- binoculars
- datasheets
- field guide for birds
- global positioning system (GPS)
- project map
- digital camera

Reporting

Any wildlife concerns that are observed during the survey should immediately be brought to the attention of the environmental manager so that appropriate action can be taken. Any wildlife incidents observed or reported during this survey should be reported in the Wildlife Incident Report Form (see separate form). Observations relevant to human or wildlife safety, such as observations of bears, caribou, moose, species at risk, roosting bats, or nesting birds, will be included in the internal Weekly Report. All information including surveys and monitoring will be summarized in the Annual Report, which will be provided to GNWT-ENR and ECCC.

WILDLIFE SURVEILLANCE MONITORING FORM

Observers: _____ Date: _____ Page : _____ of: _____

Wind:(start) _____ (end) _____ Cloud Cover:(start) _____ (end) _____ Temperature: (start) _____ (end) _____ Precipitation: _____

Wildlife Observed or Wildlife Sign

Time	Location (closest exploration site ID)	Wildlife Present? (Y/N)	Species Or Sign	Number	Activity	Photo #	Observations from people working at the location / other comments

Record any additional comments on reverse page

Bird Nesting and Bat Roosting Activity Procedure

Purpose

The purpose of this procedure is to detect and mitigate impacts to active bird nests and bat roosting sites from vegetation clearing and other Project activities.

Responsibility

PPML staff are responsible for completing the surveys and entering the results into a database. Surveys will be led by a qualified bird observer (e.g., biologist) or by trained PPML staff/local community environmental field technician/s.

Procedure

Systematic Monitoring

PPML staff will undertake systematic monitoring of Project buildings, stationary equipment, and active exploration sites to detect bird nesting activity and potential bat roosts. PPML staff will document avian nests and nesting behaviour, as well as potential little brown myotis and northern myotis maternal roosting sites. The surveillance monitoring survey will include high use areas of the Project where there is risk of birds or bats nesting or finding shelter. This will include areas where whooping crane nests have been observed (e.g., during aerial surveys or pre-clearing survey), buildings that are frequently used, stockpiles of supplies, sand and soil, and pit walls, active quarries and borrow pits, as well as mobile and stationary equipment that has potential to be used during the migratory bird nesting and bat roosting season (May 1 to August 20).

Surveys in these areas will occur at least once per week during the migratory bird nesting and bat roosting season and more frequently (every 2 days) in particular areas with high potential for nesting (e.g., soil stockpiles), if nests or roosts are found, or nesting or roosting activity is observed.

To limit effects on bank swallows during the breeding season, daily inspections must be completed at all active quarries, soil stockpiles, overburden slopes, and borrow pits ahead of disruptive activities occurring within these areas. Additional measures that will be implemented to reduce the potential for nesting by bank swallows at the Project site are the following:

- Stockpile and overburden slopes in active work areas will be maintained with slopes at less than 70 degrees, where possible.
- Ensure PPML operational staff and contractors are aware of potential presence and interactions with bank swallows and conduct daily inspections for swallows or nests before starting disruptive activities in active quarries and borrow pits.

Observers will travel to defined Project locations and record the following at each location:

- 1) Time upon arrival at location / monitoring site.
- 2) Time upon arrival at location / monitoring site.
- 3) Location or monitoring site.

- 4) Presence of bird nesting behaviour, active bird nests, or bat roosting sites.
- 5) Number of individuals.
- 6) Photo number (if photo taken).
- 7) Any relevant comments about the observation, or relevant information from people working at the location.
- 8) Any reports of sign or observations of species from Project staff working in the area (in the additional comments section on the reverse side of the data sheet).
- 9) If no nests, nesting behaviour or roosting sites are observed, no sign seen, and no reports of wildlife from staff, then an “N” should be recorded on the data sheet and in the database for that monitoring site / location.
- 10) In the event that an active nest is located, activities will be postponed until after the breeding season, if possible. If activities cannot be postponed, an activity restriction buffer will be implemented around the nest and no activities will be allowed within this buffer, unless an environmental monitor is on site to ensure that the nesting individuals are not disturbed by activities. If disturbance to the individuals is noted, activities will cease until after the breeding season.
- 11) Monitoring will initiate May 1 and continue at least until August 20 (or until all identified nests are inactive), and focus on areas where scheduled construction activities are expected during the migratory bird nesting season.
- 12) In particular, incidental observations of avian species at risk should be documented. These species include the following:
 - a) Whooping crane
 - b) Bank swallow
 - c) Barn swallow
 - d) Common nighthawk
 - e) Olive-sided flycatcher
 - f) Canada warbler
 - g) Rusty blackbird
 - h) Evening grosbeak
 - i) Horned grebe
 - j) Red-necked phalarope
 - k) Yellow rail
 - l) Short-eared owl
 - m) Lesser yellowlegs
 - n) Harris’s sparrow

Pre-Vegetation Clearing

Clearing of vegetation will generally be scheduled to occur outside of migratory bird breeding season (May 1 to August 20). However, there may be instances where vegetation removal is required during this period due to schedule changes or unforeseen circumstances. In these cases, non-intrusive pre-clearing surveys are required. These will be developed on a case-by-case basis.

PPML staff will determine an appropriate setback distance for each nest on a case-by-case basis according to the following two factors (ECCC 2019a):

- 1) Alert distance - the distance at which the bird adopts an alert posture or emits alarm calls:
 - a) Birds usually perceive humans as potential predators. They may leave their nests in response to being approached, or abort nesting because of stressful situations.
- 2) Flush distance - the distance at which a bird takes flight or moves away from a threat, performs distraction displays (such as feigning a broken wing or sitting down on a non-nesting site to draw attention away from the nest), or actively defends the nest.

A higher minimum setback distance may be required in some circumstances, such as the following (ECCC 2019a):

- Removal of vegetation and/or soil disturbance.
- Drilling, loud noise, vibration.
- Regular approach by humans or vehicles.
- Noise exceeding 10 decibels (db) above ambient noise levels in the natural environment.
- Noise greater than about 50 db.
- Most waterfowl nests compared to nests of songbirds and other small birds.
- Presence of sensitive species or species at risk (particularly whooping crane).

Survey Locations

Systematic Monitoring

The following areas / sites should be visited at least once a week:

- camp (entire perimeter and buildings)
- waste management areas (entire perimeter and buildings)
- heavy equipment that has been stationary for more than two days and will be used during the migratory bird nesting and bat roosting season
- waterbodies within 100 m of camp
- stream crossing locations
- active quarry and borrow pit walls (to be monitored daily prior to the start of activities)

Pre-Vegetation Clearing

- All greenfield areas that will be cleared of vegetation during the migratory bird nesting period, plus a minimum 30 m buffer around the area to be cleared, should be searched by PPML staff as soon as possible before clearing is to take place. A larger area (minimum 500 m) will need to be cleared in areas where there is potential for whooping crane nests (as defined by Olson and Olson [2003], with updates expected in 2022 [Dufour 2021, pers. comm.]). The exact buffer to be searched will be determined by the environmental manager on a case-by-case basis.

Equipment Requirements

- truck
- binoculars
- datasheets
- field guide for birds
- GPS
- project map
- digital camera

Reporting

Any bird nesting or bat roosting observed during the survey should immediately be brought to the attention of the environmental manager. The environmental manager will determine an appropriate setback distance for each nest on a case-by-case basis according to the factors outlined above. If a federally-managed species at risk is found, the environmental manager will email ECCC (cwsnorth-scfnord@ec.gc.ca and dalfnord-wednorth@ec.gc.ca) to determine an appropriate course of action.

The ENR South Slave Region will be contacted to seek advice in instances where the nest of a territorially managed bird species or bat roost is encountered at 1-867-872-0400 (Fort Smith) or 1-867-875-7460 (Hay River).

Details of all nests identified, and associated mitigation that was implemented to limit effects on nesting birds will be included in the internal Weekly Reports.

All observations of nesting or roosting activity or risk of nesting or roosting on active Project infrastructure should be included in the internal Weekly Report. All information including surveys and monitoring will be summarized in the Annual Report, which will be provided to GNWT-ENR and ECCC.

BIRD NESTING/ BAT ROOSTING ACTIVITY MONITORING FORM

Observers: _____ Date: _____ Page: _____ of: _____

Wind:(start)____ (end)____ Cloud Cover:(start)____ (end)____ Temperature: (start)____ (end)____ Precipitation: _____

Location (closest exploration site label/number): _____

Wildlife Observed or Wildlife Sign

Time	Location (UTM)	Species Observed	Photo #	Nesting/Roosting Behaviour Observed	Nest/Roost Observed (describe)

Record any additional comments on reverse page

Whooping Crane Nesting Monitoring Procedure

Purpose

The purpose of this procedure is to detect and mitigate impacts to active whooping crane nests from Project activities.

Responsibility

Qualified biologists are responsible for completing the aerial surveys and entering the results into a database.

Procedure

The aerial survey will be completed in between May 15 and May 31, 2022 or 2023. All areas of potential suitable whooping crane nesting habitat that overlap areas within 5 km of potential drilling locations will be surveyed. Areas of potential whooping crane nesting habitat will be updated by ECCC (results expected in 2022; Dufour 2021, pers. comm.). As the methodology to survey for whooping crane nests overlaps the sensitive timing period for caribou, prior to the whooping crane aerial survey PPML will use maps of caribou collar data, provided by ENR (see WMMP Appendix C – Caribou Monitoring Procedure), to identify where the survey area may overlap with caribou calving locations. PPML will avoid flying those areas where caribou calving locations are identified and where there does not appear to contain suitable whooping crane nesting habitat. Where caribou are observed during the survey, PPML shall ascend to higher altitude and avoid circling over them.

Linear transects spaced 1,000 m apart will be flown by helicopter travelling approximately 90 km/h and no less than 300 m above ground level. Two qualified observers will sit on either side of the helicopter and will document all whooping crane nests and individuals observed within 200 m on their side of the aircraft. A First Nations assistant or PPML staff will serve as a data recorder and navigator.

Observers will record the following for each transect/whooping crane observation:

- 1) Weather conditions (wind speed, temperature, cloud cover, precipitation)
- 2) Time start flying transect.
- 3) Time end flying transect.
- 4) Transect ID number.
- 5) Presence of active whooping crane nests or whooping crane individuals.
- 6) Presence of large mammals (incidental observations).
- 7) Number of individuals.
- 8) Habitat where whooping cranes are observed.
- 9) UTM of nests.
- 10) Any relevant comments about the observation.
- 11) If no nests sites are observed, then an “N” should be recorded on the datasheet and in the database for that transect.

12) The aerial survey needs to be completed between May 15 and June 6, the whooping crane egg incubation period . However, to minimize effects of aircraft on calving caribou, the survey will be completed prior to May 31.

If an aerial survey cannot be completed (e.g., permitting delays, weather, calving caribou in the area); PPML will conduct the pre-clearing survey to identify active nests.

Mitigation Options for Whooping Nests

During the breeding season, if a whooping crane nest is observed within 5 km of an area where drilling will take place, the following mitigation options will be evaluated by ECCC and PPML (in decreasing order of preference) (Figure 4):

- If feasible, reschedule drilling activities to avoid the whooping crane nesting period.
- Through consultation with ECCC nests will be protected by a setback buffer that protects the nest from sensory disturbance while allowing activities to continue and will be monitored.

Equipment Requirements

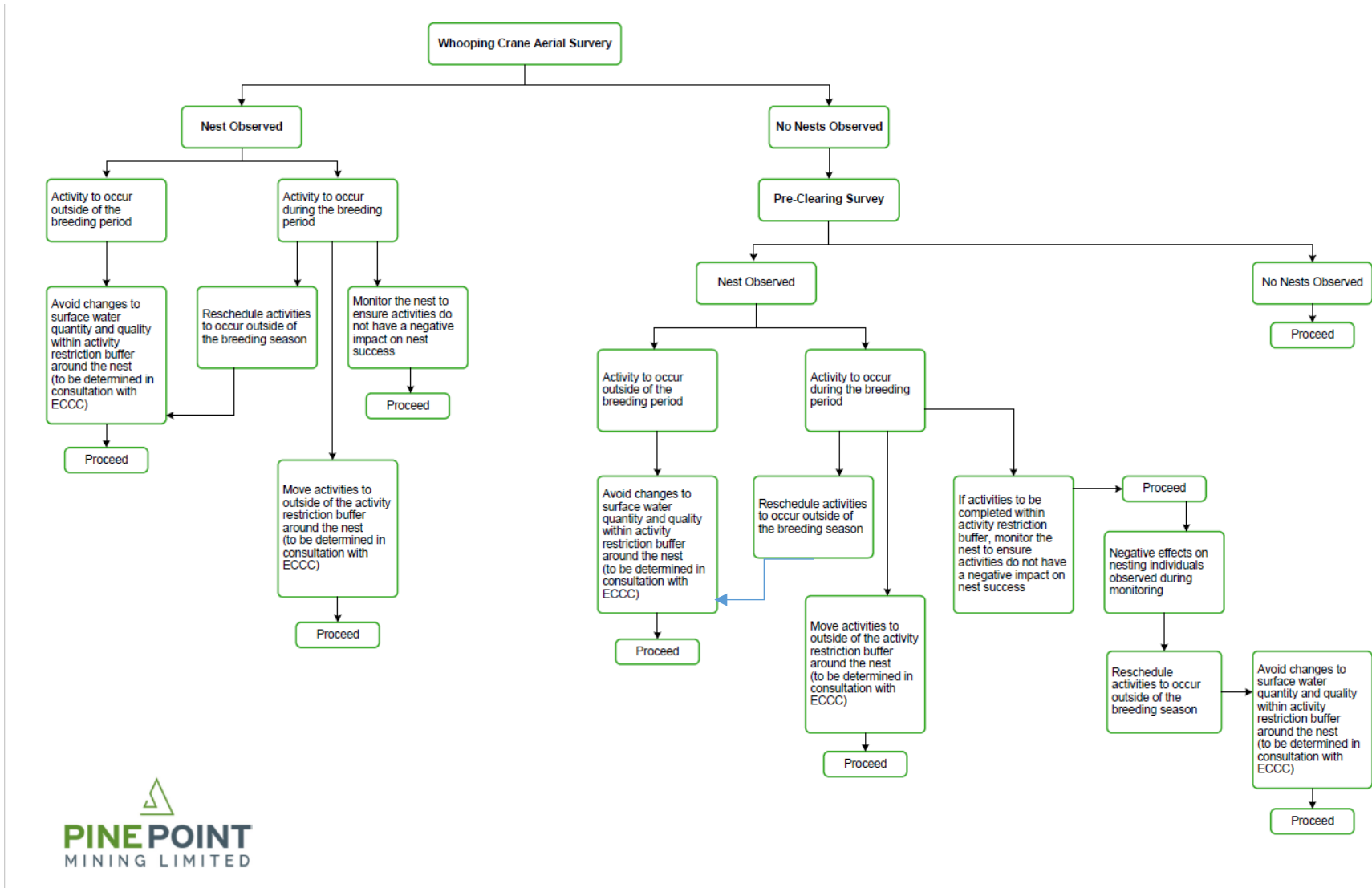
- helicopter
- datasheets
- GPS
- whooping crane habitat suitability layer (GPS)
- aerial transects (GPS)
- digital camera

Reporting

Any whooping crane observed during the survey should immediately be brought to the attention of the environmental manager. The environmental manager will email ECCC (cwsnorth-scfnorth@ec.gc.ca **and** dalfnord-wednorth@ec.gc.ca) to determine an appropriate course of action. Details of all nests identified, and associated mitigation that was implemented to limit effects on nesting birds will be included in the internal Weekly Reports.

All information including surveys and monitoring will be summarized in the Annual Report, which will be provided to GNWT-ENR and ECCC.

Figure 4: Whooping Crane Mitigation and Monitoring Protocol



WHOOPING CRANE AERIAL SURVEY FORM

Observers: _____ Date: _____ Page: _____ of: _____

Wind:(start)____ (end)____ Cloud Cover:(start)____ (end)____ Temperature: (start)____ (end)____ Precipitation: _____

Wildlife or Wildlife Sign Observed

Time	Transect ID	Species Observed	Number of Individuals	Whooping Crane Nest UTM		Habitat Notes	Comments
				Easting	Northing		

Pre-Clearing Survey Procedure

Purpose

The purpose of this procedure is to detect large mammals and raptor nests ahead of any activity associated with the drilling program (e.g., drilling, vegetation clearing activities, and blasting); and to detect caribou within 500 m of any exploration site.

Responsibility

PPML staff are responsible for completing the surveys and entering them into a database. Surveys will be overseen by the environmental manager. Surveys will be led by a qualified biologist or by a trained member of PPML staff/local community environmental field technician.

Procedure

- 1) Pre-clearing surveys will be conducted year-round prior to any activity being undertaken in an area.
- 2) PPML staff will survey the area where any activity associated with the drilling program will take place, plus a 500 m buffer, by foot, ATV, snow machine, or truck. PPML staff should aim to survey areas to be cleared 2 days or less prior to the vegetation clearing.
- 3) PPML staff will search the entire area to be cleared and 500 m buffer by completing transects throughout the entire area. Areas walked will be recorded using GPS units to ensure the entire area has been surveyed.
- 4) Any large mammals (caribou, moose, bison, bears, wolves), sign or scat, and raptor nests observed in or within 500 m of the area to be cleared or blasted will be documented and reported to the environmental manager.
- 5) Surveyors may suggest alternate locations or access routes to avoid important wildlife features (such as raptor nests) or important biophysical attributes for boreal caribou.
- 6) For each day of surveys, the following information will be recorded using the datasheet provided:
 - start and finish coordinates and times
 - observer names
 - wildlife or wildlife sign observed
 - estimate age of wildlife sign (e.g., days since last snowfall for fresh wildlife tracks).
- 7) Communications with the environmental manager and any follow up actions will also be documented.

Caribou Specific Procedure and Mitigation Options

Refer to separate Caribou Monitoring Procedure.

Mitigation Options for Large Mammals

If a large mammal is observed within 500 m of an area that will be cleared of vegetation, activities within 500 m of the animal will cease until the animal moves beyond 500 m from activities.

Environmental monitors may also suggest alternate routes or locations to avoid impacts to biophysical attributes important to boreal caribou. This includes late seral-stage (> 50 years old) conifer forest (jack pine, black spruce, tamarack); treed peat lands, muskegs or bogs; dry islands in the middle of muskegs with abundant lichens; hilly or higher ground and small lakes (from the Amended Recovery Strategy for the Woodland Caribou, Boreal population, in Canada, Environment Canada 2019).

Mitigation Options for Raptor Nests

If an unoccupied raptor nest is found within 500 m of an area that will be cleared of vegetation during winter, the following mitigation options will be evaluated by GNWT-ENR and PPML (in decreasing order of preference):

- If feasible, adjust the area required for greenfield clearing to avoid the raptor nest by 500 m.
- Reduce the size of the exclusion zone, but maintain a vegetated buffer around the raptor nest. Leave the tree supporting the raptor nest standing, if safety permits.
- If the tree supporting the nest is directly within an area that must be cleared, and the mitigations listed above are not feasible, obtain a permit from GNWT-ENR to destroy the raptor nest.

If vegetation clearing in greenfield areas is required during the raptor breeding period, the area to be cleared, plus a 500 m buffer, will be searched to locate active raptor nests. The environmental manager will be notified immediately if an active raptor nest is found within 500 m of the area to be cleared. The environmental manager will email GNWT-ENR to determine an appropriate course of action. Through consultation with GNWT-ENR nests, will be protected by a buffer that protects the nest while allowing activities to continue and will be monitored. Details of nests identified and associated mitigation will be included in the internal Weekly Reports.

Equipment Requirements

- Datasheets
- GPS
- Project map
- Transect lines
- Digital camera

Reporting

Observations of large mammals or fresh sign and active and inactive raptor nests will be reported immediately to the environmental manager. Survey effort and a summary of results will be included in the internal Weekly Report. All information including surveys and monitoring, including mitigation applied, will be summarized in the Annual Report, which will be provided to GNWT-ENR and ECCC.

PRE-CLEARING WILDLIFE SURVEY

Date: _____ Start time: _____ End time: _____ Observer(s): _____

Wind: _____ Cloud Cover: _____ Temperature: _____ Precipitation: _____ Days Since Last Snow _____

Start location (UTM): _____ End location (UTM): _____

Habitat Description (e.g. vegetation composition, height, density, presence of lichens) _____

Contains biophysical attributes of critical habitat for Boreal Caribou (yes/no) and details: _____

Closest Exploration Site

Label/Number: _____

Wildlife and Wildlife Sign Observations

Time	Species	Observation (visual, tracks, other sign; estimated age of sign)	Location (UTM)	Comments

Wildlife Incident Reporting Procedure

Purpose

The following procedure is intended as a guideline to identify wildlife that requires immediate reporting and sampling (if necessary). GNWT-ENR encourages all those conducting activities on the land or residents to record and report all instances of injury or possibility of disease in wildlife. The Project will document all such incidents to prevent future incidents or escalation of problems, and report to GNWT-ENR and ECCC, as applicable.

Responsibility

All Project personnel are responsible for recording wildlife incidents on the Project site.

As per Section 57 of the *Wildlife Act*, any defense of life and property kills must be reported to GNWT-ENR without delay. All reasonable efforts must be made ensure to avoid spoiling of the hide and other valuable parts. These should be turned over to an GNWT-ENR Officer to avoid any wastage.

As per Section 58 of the *Wildlife Act*, and sub-section 8(1) of the Wildlife General Regulations, any person who accidentally kills or seriously wounds big game or other prescribed wildlife with a motorized vehicle on a highway must report the event to an officer within 24 hours after the incident.

As per Section 11.21(6) of the *Migratory Birds Convention Act, 1994* any person who contravenes the Act (e.g., by accidentally killing or seriously wounding a bird species protected under the Act) must report the event to ECCC-CWS within 24 hours after the incident.

Procedure

Report wildlife incidents within the Project footprint when:

- Wildlife is injured or killed due to collision with a Project vehicle.
- Wildlife is suspected of being diseased.
- Wildlife is found dead or injured.
- There is the potential for human/wildlife conflict such as an occupied bird nest or wolf or bear den.
- Wildlife is deterred from camp or other work area.
- An animal is killed to protect worker safety.
- Property is destroyed by wildlife.

Complete the Wildlife Incident Record Form, providing information such as:

- Behaviour and movements.
- Loss of life or property.
- Reason for attraction to area.
- Estimation of how long the animal was dead.
- Any other animals seen in the area.

Collect photographs:

- Add photo name/label.
- Show general area.
- In case of mortality, photograph the animal (one from each side, head, and tail), including anything unusual and any obvious injuries or marks.

Collect carcass (migratory bird mortalities only):

- After taking photographs of the bird, the carcass is to be collected, bagged, and tagged (with date, location, species, and any other relevant information), and placed in a freezer until PPML staff have received advice from ECCC on disposal of the carcass.

Equipment Requirements

- Data sheets to be posted for all Project staff use.
- In case of mortality, digital camera and proper personal protective equipment for carcass collection (gloves, face mask).

Reporting

PPML staff should report all incidents immediately to the environmental manager, who will report them to the GNWT-ENR South Slave Emergency number at 1-867-872-0400 (Fort Smith) or 1-867-875-7460 (Hay River) (24 Hours), Fax: (867) 873 – 6230.

Any vehicle collisions with big game species should be reported within 24 hours to 1-866-762-2437.

When the Wildlife Incident Report is complete, the environmental manager is to contact:

- 1) The ENR South Slave office at SouthSlave@gov.nt.ca.
- 2) For ECCC reporting, contact cwsnorth-scfnord@ec.gc.ca **and** dalfnord-wednorth@ec.gc.ca

All Incident Reports will be included in the internal Weekly Reports.

Occurrence Date/Time:

Date Reported:

WILDLIFE INCIDENT RECORD

MAIN CONTACT INFORMATION		
NAME:		
ADDRESS:		
PHONE NUMBER:		
Location of Complaint: (coordinates, closest exploration site label/number (ID), lake, camp)		
Details Taken by:		
Location of Incident (coordinates, closest exploration site label/number (ID), lake, camp):		
Type of Incident: <input type="checkbox"/> Encounter <input type="checkbox"/> Nuisance <input type="checkbox"/> Wildlife Mortality <input type="checkbox"/> Wildlife Injured <input type="checkbox"/> Defensive <input type="checkbox"/> Other:		
Species: <input type="checkbox"/> Black Bear <input type="checkbox"/> Bison <input type="checkbox"/> Fox <input type="checkbox"/> Wolverine <input type="checkbox"/> Wolf <input type="checkbox"/> Caribou <input type="checkbox"/> Moose <input type="checkbox"/> Bird <input type="checkbox"/> Other:		
Sex:	<input type="checkbox"/> Male	AGE CLASS:
	<input type="checkbox"/> Female	<input type="checkbox"/> Adult
	<input type="checkbox"/> Unknown	<input type="checkbox"/> Juvenile
		<input type="checkbox"/> Cub
		<input type="checkbox"/> Unknown
Details of Incident: (movement, behaviour, reason for attraction, property damage, vehicle collision, etc.)		
Details of Action Taken: (reporting, deterrence type, disposal, removal of attractant, etc.)		
DATE: mm/dd/yy		
Was the incident resolved?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Has Environment & Natural Resources been contacted?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Contact Name:		
Date/Time Reported:		

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