



Oscar Creek Bridge Relocation Project

Wildlife Management and Monitoring Plan v.1.1

November 2024



Plan Maintenance and Control

Plan Document History

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Abbreviations

ECCC	Environment and Climate Change Canada
GNWT	Government of the Northwest Territories
GNWT-ECC	Government of the Northwest Territories - Environment and Climate Change
INF	Department of Infrastructure
IWA	Important Wildlife Area
km	kilometre
the Project	Mackenzie Valley Highway, the Project
NWT	Northwest Territories

1 Introduction

1.1 Purpose and Approach

This Wildlife Management and Monitoring Plan (WMMP) has been developed to support the construction of the Oscar Creek Bridge Relocation Project (the Project) by the Government of the Northwest Territories (GNWT) Department of Infrastructure (INF).

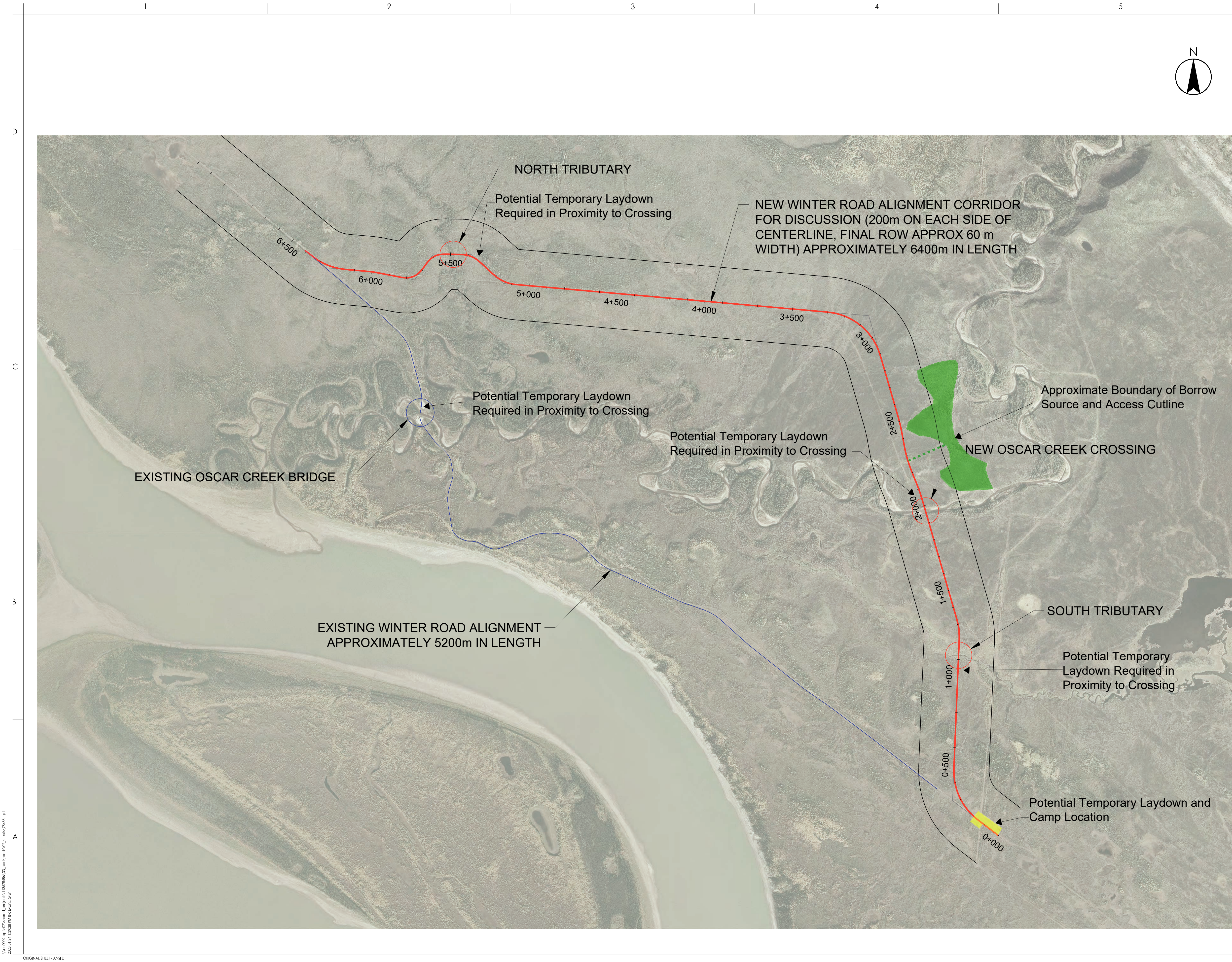
The Project is in the Sahtu Region of the Northwest Territories. The Project includes the relocation of the Oscar Creek Bridge located at KM1054.4 of the Mackenzie Valley Winter Road (MVWR) to a location 2.9 kilometres (km) to the east (upstream), and re-alignment of the MVWR from approximately KM1051 to KM1056 to connect with the new bridge location. The re-alignment requires construction of additional watercourse crossings of the North and South tributaries of Oscar Creek. (Figure 1-1).

The WMMP was developed in accordance with GNWT Environment and Climate Change (ECC)'s guidelines for a Tier 1 WMMP, and best practices in Northwest Territories. It is one of several plans developed for the Project. This WMMP is complementary to terms and conditions contained in Land Use Permit S24E-006 and Water Licence S24L8-003 for the Project.

The primary goal of this WMMP is to identify potential direct and indirect effects on wildlife and wildlife habitat and describe mitigation and monitoring to reduce potential Project effects. The WMMP is complementary to other operational and management plans that have been developed for the Project and will be used to mitigate potential effects on wildlife and wildlife habitat including:

- Erosion and Sedimentation Control Plan
- Quarry Development Plan
- Spill Contingency Plan
- Waste Management Plan

The WMMP will be reviewed annually during the Project to capture lessons learned from the previous year's activities. Revisions will also be performed as needed to adapt and incorporate any changes related to environmental factors, pertinent project-specific changes during construction (e.g., site conditions and design modifications), and the GNWT Department of Infrastructure (INF) and contractor practices, experiences, and policies.





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Notes

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Permit/Seal

**PRELIMINARY
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Client/Project Logo



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DEPARTMENT OF INFRASTRUCTURE
GOVERNMENT OF NORTHWEST TERRITORIES

MACKENZIE VALLEY WINTER ROAD -
OSCAR CREEK BRIDGE RELOCATION
Title

PROJECT OVERVIEW

Project No. 113678486	Scale 1:10,000
Revision	Sheet
	Drawing No.

FIGURE 1-1

1.2 Project Overview

1.2.1 Project Activities

The Project includes the following activities to which this plan applies:

- Mobilizing and demobilizing construction equipment to and from work sites
- Site preparation, including tree clearing and grubbing
- Construction of a winter road along the new right-of-way
- Disassembly and relocation of existing Oscar Creek bridge structure to the new location
- Rehabilitation of the old bridge location, including removing material, cutting piles, removing/cutting bin walls and seeding.
- Construction of a bridge crossing at the North Tributary and large diameter culvert crossing at the South Tributary; construction of bridge approaches
- Construction of temporary crossings and ice platform
- Borrow source development and operations:
 - Clearing and stripping
 - Excavation
 - Blasting (potential)
 - Sorting and stockpiling
- Camp accommodations and associated facilities
 - Camp operations
 - Waste management and water use
- Fuel storage and refueling

1.2.2 Project Schedule

The project schedule is summarized in Table 1-1. The Project will principally be undertaken in winter. Once constructed, the watercourse crossings and new winter road alignment will be operated as part of the GNWT-INF's MVWR.

Table 1-1 Project Schedule (Summary)

Activity	Anticipated Timing (Year of Start is Tentative)
Mobilization and site preparation, including clearing	January 1 to March 31 of the first year
Bridge relocation, watercourse crossings construction, bridge approaches construction	January 1 to March 31 of both years
Borrow source development and material extraction	January 1 to March 31 of both years
Camp operation, water use, waste management	January 1 to March 31 of both years
Demobilization, closure and reclamation	Annually, prior to spring shutdown

1.3 Roles and Responsibilities

1.3.1 Project Contacts

The primary contacts for the Project are identified in Table 1-2.

Table 1-2 Project Contacts

Primary [Contractor] contact: [Insert Name] [Title] [Company name] [mailing address] [Phone] [Fax] [Email]	Primary GNWT-INF contact: Chaudary Murtaza Manager, Structures-Bridges Department of Infrastructure Government of the Northwest Territories PO BOX 1320, 5015 49th Street Yellowknife, NT X1A 2L9 867-767-9086 Ext. 31127 Chaudary_Murtaza@gov.nt.ca
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1.3.2 Roles and Responsibilities

The Contractor is responsible for implementing the WMMP and complying with all permits and licences issued to the GNWT-INF. Roles and responsibilities are outlined in Table 1-3.

Table 1-3 Roles and Responsibilities

Entity	Responsibility
Contractor	<ul style="list-style-type: none">• Implement this WMMP under the direction of the Contractor Supervisor• Make personnel, equipment, and materials available, as required• Continue implementing the WMMP until responsibility is transferred under the authority of the GNWT
Contractor Supervisor	<ul style="list-style-type: none">• Supervise the contractor team• Verify that this WMMP is available on site at all times• Report and document incidents to GNWT-INF• Verify that personnel are trained and competent in the WMMP's application• Verify that the measures in the WMMP are adequately applied• Conduct regular worksite inspections• Liaise with the GNWT Inspector and Wildlife Officer, as may be required.

Entity	Responsibility
Contractor Project Manager	<ul style="list-style-type: none"> • Maintain records of construction, mitigation, and worksite inspection, and wildlife response activities • Oversee completion of the Project • Support the Contractor Supervisor, as required
Department of Infrastructure (GNWT-INF)	<ul style="list-style-type: none"> • Support Contractor with compliance to all permits and licences • Develop press releases and liaise with media directly (if required) • Liaise with the GNWT Lands Inspector, the GNWT Water Resources Officer, government agencies, and public and Indigenous Governments and Indigenous Organizations (as required) • Confirm all reports are completed, as required by authorizations

1.4 Legislation, Guidelines and Policy

Federal and Northwest Territories Acts and regulations that apply to wildlife in relation to the Project are summarized in Table 1-4. A detailed description of relevant sections of the *Wildlife Act* are provided in Appendix A.

Table 1-4 Summary of Federal and Territorial Regulatory Requirements Applicable to Wildlife and Wildlife Habitat

Legislation/Regulations	Responsible Agency	Requirements
<i>Species at Risk Act</i> (SARA)	Environment and Climate Change Canada (ECCC)	Species at risk and their habitats are protected under SARA, which prohibits: (1) the killing, harming, or harassing of endangered or threatened species at risk (SAR; SARA sections 32 and 36); and (2) the destruction of critical habitat of and endangered or threatened SAR (SARA sections 58, 60, and 61).
<i>Migratory Birds Convention Act</i> (MBCA) and Migratory Birds Regulations, 2022	ECCC	<p>The MBCA, and Migratory Birds Regulations (MBR), prohibits the capture, killing, taking, injuring or harassment of a migratory bird as well as the disturbance, destruction, or taking of a nest, egg, nest shelter, eider duck shelter or duck box of a migratory bird. However, a nest may be disturbed if the nest does not contain a live bird or viable egg with the exceptions of 18 bird species listed on Schedule 1 (e.g., pileated woodpecker), which are protected year- round under the modernized MBR 2022.</p> <p>The protection of birds under the Act is afforded to all native bird species expected to occur in the assessment areas, except upland gamebirds, raptors, belted kingfisher, owls, corvids, and icterid blackbirds, which are protected under territorial legislation.</p>

Legislation/Regulations	Responsible Agency	Requirements
<i>Wildlife Act</i>	GNWT-ECC	The <i>Wildlife Act</i> (GNWT 2020a) provides general provisions for regulating the activities relating to the harvest and protection of wild animals in NWT. Section 1(1) defines “wildlife” as “all species of vertebrates and invertebrates found wild in nature in the Northwest Territories,” and Section 51(1) includes protections for birds and bird nests.
<i>Species at Risk (NWT) Act</i>	GNWT-ECC	The <i>Species at Risk (NWT) Act</i> sets out the processes to assess, list, protect and recover species at risk specifically for the Northwest Territories (NWT). The <i>Species at Risk (NWT) Act</i> applies to any wild animal or plant species managed by the GNWT. It applies on both public and private lands, including private lands owned under a land claims agreement.
Sahtu Land Use Plan (Sahtú Land Use Planning Board [SLUPB], 2013)	SLUPB	<p>CR#7. Fish and Wildlife</p> <p>1) Land use activities must be designed using the most current information for identified species of interest and species at risk as obtained from the GNWT-ENR ([now Environment and Climate Change [ECC]], Canadian Wildlife Service (CWS), DFO, PCA, the SRRB and the local RRCs.</p> <p>2) Impacts to wildlife, their habitat and migration patterns, and important community harvesting areas must be prevented or mitigated to the extent possible.</p> <p>a) In particular, all reasonable steps should be taken to follow the horizontal setbacks and minimum flight altitudes identified in Table 4 [of the SLUP] when near habitat sites during sensitive periods described in that table, unless human safety is of concern, and measures are developed with the appropriate organizations and the RRC to mitigate impacts to these species and their habitat.</p> <p>c) Barren-ground caribou and woodland caribou are especially important to communities and have been shown to be sensitive to disturbance. Map 3 [of the SLUP] shows important rutting and wintering habitat for barren-ground caribou (Oct 8-Mar 31), boreal and mountain woodland caribou range, and the summer habitat of the South Nahanni Herd of Mountain Woodland Caribou. All land use activities occurring in these areas during the specified times are required to address impacts to caribou and their habitat.</p> <p>CR#8. Species Introduced</p> <p>Land use activities must not result in the intentional introduction of non-native plant and animal species, or of domestic animal species or subspecies, except by special approval by the appropriate authority. All reasonable precautions must be taken to prevent the introduction of non-native species or sub-species.</p>

Legislation/Regulations	Responsible Agency	Requirements
Sahtu Land Use Plan (Sahtú Land Use Planning Board [SLUPB], 2013) (cont'd)	<i>See above</i>	<p>CR#9. Sensitive Species and Features</p> <p>1) Any land use activity requiring a land use permit or water license must be designed using the most current available information on the location of rare or may-be-at-risk plants, hot and warm springs, mineral licks, karst topography, amphibian sightings, and ice patches and carried out in a manner that minimizes impacts to these features.</p> <p>2) Specifically, land use activities:</p> <p>a) must not take place within 1,000 m of any known mineral lick, unless the activity cannot feasibly meet this requirement, and it can be demonstrated that alternative mitigation measures will protect the lick</p> <p>b) that are situated within the boundary of glacial refugia or within 500 m of known hot or warm springs and have the potential to impact rare or maybe-at-risk plants shall require a plant survey. Any rare or maybe-at-risk plants found in the survey shall be monitored for impacts from the activity.</p> <p>c) situated within the area of ice patches identified in Map 4 [of the SLUP]</p> <p>3) The location of any hot or warm spring or mineral lick discovered while carrying out an authorized activity must be reported to nwt_pas@gov.nt.ca and any amphibian sightings to nwtsoer@gov.nt.ca.</p>
		<p>CR#11. Project-specific Monitoring</p> <p>Any land use activity requiring a land use permit or water license must include site-specific monitoring, that is sufficient to monitor the effectiveness of the activity's proposed mitigation measures and any impacts to the values in the surrounding area, as defined in the Plan's Background Report, zone descriptions and in discussions with communities.</p> <p>CR#14. Protection of Special Values</p> <p>Any land use activity proposed within a Special Management Zone, Conservation Zone or Proposed Conservation Initiative must be designed and carried out in a manner that protects, respects, or takes into account the values of the zone as directed in the Plan's Zone Descriptions.</p>

Other guidelines and documents that were considered in the preparation of this WMMP include the following:

- Northern Land Use Guidelines (GNWT 2015)
- Species Status Report Boreal Caribou (*Rangifer tarandus caribou*) in the Northwest Territories. May 2022. Yellowknife, Northwest Territories (SARC 2022)
- Guidelines for Exploration and Development Projects in Boreal Caribou Habitat in the Northwest Territories (GNWT 2022)
- A Framework for Boreal Caribou Range Planning (GNWT 2019)
- Recovery Strategy for the Woodland Caribou (*Rangifer tarandus caribou*), Boreal population, in Canada (EC 2012)
- Recovery Strategy for the Little Brown Myotis (*Myotis lucifugus*), the Northern Myotis (*Myotis septentrionalis*), and the Tri-colored Bat (*Perimyotis subflavus*) in Canada (ECCC, 2018)
- Management Plan for Bats in the Northwest Territories. Conference of Management Authorities, Yellowknife, NT (CMA, 2020)

1.5 Training

All Project personnel will receive training on the purpose and procedures provided in this WMMP, including Bear Safety training and review of as part of wildlife awareness training.

2 Engagement Input

2.1 Traditional Knowledge Relevant to Wildlife

A project-specific Traditional Knowledge (TK) study was completed by the Norman Wells Renewable Resources Council (NWRRC 2018). The study included Traditional Knowledge, and traditional and other land use information in the area of the Oscar Creek Bridge based on interviews with three Sahtu Elders.

Study participants reported hunting and trapping at Oscar Creek to support family members and that harvesting wildlife, either by trap or hunting, is important for sustenance, clothing, shelter, and transportation (NWRRC 2018). Important wildlife species identified by TK study participants include beaver, black bears, grizzly bears, foxes, lynx, mink, moose, muskrats, porcupine, rabbits, squirrels, wolves, wolverine, and woodland caribou (NWRRC 2018). One study participant reported that “woodland caribou do not migrate in the area. They live along the foothills of the mountains and surrounding areas” (NWRRC 2018). NWRRC TK study participants also reported harvesting birds around Oscar Creek, including ducks, geese, and ptarmigans (NWRRC 2018). Study participants reported that there is a chain of lakes, beginning at Bosworth Creek, that is a migratory route for geese and ducks. “There is a chain of lakes northward from Bosworth Creek and geese and ducks migrate along these lakes as there is a lot of feed” (NWRRC 2018).

2.2 Engagement Input Relevant to Wildlife

Community meetings were held in Norman Wells and Fort Good Hope. Additional one-on-one meetings were held with other affected parties in Norman Wells, Fort Good Hope and Tulita. A summary of the engagement on the Project completed in 2023 is summarized in Table 2-1.

The bridge relocation, and re-alignment of the MVWR is widely supported as an alternative to the current bridge location. The new alignment further from the Mackenzie River will be more resilient to climate change-related erosion and changes in water levels.

Fort Good Hope engagement participants noted that the new alignment runs through a wet area near the South Tributary of Oscar Creek. Participants noted there are some moose and beaver in the area where the new alignment is proposed. Participants were not aware of any trappers who use this area, and it is not an important area for hunting. They also noted that the new MVWR alignment may open up new areas for hunting or for harvesting wood, and that this could be a benefit.

Table 2-1 Engagement Meetings Held on the Oscar Creek Bridge Relocation Project in 2023

Group	Date and Time	Location	Notes
Fort Good Hope (Kasho Got'ine) Dene Band	Wednesday April 26, 10 to 11 am	Fort Good Hope Band Office Boardroom	Meeting with Chief
Tulita Land Corporation	Thursday April 27, 12 to 1:15 pm	Hamlet of Tulita Cultural Centre	Meeting with five members
Norman Wells Renewable Resources Council and Norman Wells Land Corporation	Thursday April 27, 6 to 7:30 pm	Norman Wells RRC office	Meeting with President and several board members of each organization.
Town of Norman Wells	Friday April 28, 10 to 11 am	Town of Norman Wells Council Chambers	Meeting with Mayor and four councillors
Norman Wells Public Meeting	Tuesday April 25, 6 to 8 pm	Legion Hall	17 participants
Fort Good Hope Land Corporation	Monday May 8, 3 to 4 pm	Online meeting	Meeting with President and three directors
Sahtu Renewable Resources Council	Monday May 15, 2 to 3 pm	Online meeting	Meeting with Executive Director.
Fort Good Hope Renewable Resources Council	N/A	N/A	GNWT reached out by phone and email; no response received.
Fort Good Hope Public Meeting	Wednesday April 26, 12 to 1:30 pm	Community Hall	36 participants
Sahtu Secretariat Incorporated	Friday May 26, 10 to 10:45 am	Online meeting	Meet with Executive Director.

3 Project Effects on Wildlife and Wildlife Habitat

3.1 Wildlife and Wildlife Habitat

Construction and operation of the Project will result in residual effects on wildlife including direct habitat loss and alteration, indirect habitat loss due to sensory disturbance (e.g., noise, lights, dust), changes in wildlife movement, and increased mortality risk. Proposed mitigation measures and monitoring programs designed to avoid or reduce potential Project effects on wildlife and wildlife habitat are provided in Section 4 and Section 5 respectively.

3.2 Wildlife Species at Risk and Conservation Concern

The WMMP focuses on wildlife species at risk and species of conservation concern that are known to occur within 15 km of the Project Area, including wildlife species or species groups that have harvesting, cultural or economic value (e.g., moose, waterfowl).

Species at risk (SAR) are species listed as special concern, threatened, or endangered under the *Species at Risk (NWT) Act* or under Schedule 1 of the federal *Species at Risk Act*. Species of conservation concern (SOCC) are species assessed as special concern, threatened, or endangered by the NWT Species at Risk Committee (SARC; GNWT 2022) or the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

There are four mammal species at risk with potential to occur in the RSA including boreal caribou, grizzly bear, wolverine and little brown myotis. In addition, there are 10 bird species at risk, one bird species of conservation concern as well as three invertebrate species at risk and one invertebrate species of conservation concern that have potential to occur in or near the Project Area.

3.3 Affected Species or Habitat Features

The Project has potential to directly and/or indirectly affect wildlife species at risk, species of conservation concern as well as species that have cultural importance to Indigenous groups. The Project also has potential to affect wildlife habitat features (e.g., raptor nests, dens) that these wildlife species depend on to meet seasonal habitat requirements.

The Project intersects two moose Important Wildlife Areas (IWAs) including the Sahtu Rivers IWA (Area ID:29), which includes the Mackenzie River and islands and the Norman Wells to Fort Good Hope winter access road (Areas ID:42) (GNWT 2023, Wilson and Haas 2012). Riparian areas along the Mackenzie River and its tributaries have high moose densities during winter due to an abundance of preferred browse (e.g., willow) and the existing winter access road is mowed periodically, which keeps it in an early successional stage with many willows that also provides high suitability moose habitat (Wilson and Haas 2012).

The Project occurs in the Middle Mackenzie River Islands Important Bird Area (IBA), which is a 250-km section of the Mackenzie River between north of Wrigley to north of Norman Wells that includes the water, shoreline, and islands along the river (Bird Studies Canada 2015). The IBA is an important migratory staging site for many duck and goose species, including greater white-fronted goose (*Anser albifrons*), Canada goose (*Branta canadensis*), tundra swan (*Cygnus columbianus*), and snow goose (*Chen caerulescens*) Bird Studies Canada 2015) The IBA also provides breeding and migration habitat for other waterbird species and SAR (e.g., horned grebe [*Podiceps auritus*], rusty blackbird [*Euphagus carolinus*]; Bird Studies Canada 2015). A summary of wildlife species at risk conservation status is provided below in Table 3-1.

Table 3-1 Wildlife Species at Risk and Conservation Concern with Potential to Occur Near the Project

Species	Latin Name	SARC Assessment ¹	Species at Risk (NWT) Act ²	COSEWIC ³	SARA ³
Mammals					
Boreal caribou	<i>Rangifer tarandus caribou</i>	Threatened	Threatened	Threatened	Threatened
Wolverine	<i>Gulo gulo</i>	Not at Risk	Not Listed	Special Concern	Special Concern
Grizzly bear	<i>Ursus arctos</i>	Special Concern	Not Listed	Special Concern	Special Concern
Little brown myotis (bat)	<i>Myotis lucifugus</i>	Special Concern	Special Concern	Endangered	Endangered
Birds					
Horned grebe	<i>Podiceps auritus</i>	Not Applicable	Not Applicable	Special Concern	Special Concern
Yellow rail	<i>Coturnicops noveboracensis</i>	Not Applicable	Not Applicable	Special Concern	Special Concern
Lesser yellowlegs	<i>Tringa flavipes</i>	Not Applicable	Not Applicable	Special Concern	Not Listed
Red-necked phalarope	<i>Phalaropus lobatus</i>	Not Applicable	Not Applicable	Special Concern	Special Concern
Short-eared owl	<i>Asio flammeus</i>	Not Applicable	No Status	Threatened	Special Concern
Common nighthawk	<i>Chordeiles minor</i>	Not Applicable	Not Applicable	Special Concern	Special Concern
Olive-sided flycatcher	<i>Contopus cooperi</i>	Not Applicable	Not Applicable	Special Concern	Special Concern

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Project Effects on Wildlife and Wildlife Habitat

Species	Latin Name	SARC Assessment¹	<i>Species at Risk (NWT) Act²</i>	COSEWIC³	SARA³
Bank swallow	<i>Riparia riparia</i>	Not Applicable	Not Applicable	Special Concern	Threatened
Barn swallow	<i>Hirundo rustica</i>	Not Applicable	Not Applicable	Special Concern	Threatened
Harris's sparrow	<i>Zonotrichia querula</i>	Not Applicable	Not Applicable	Special Concern	Special Concern
Rusty blackbird	<i>Euphagus carolinus</i>	Not Applicable	No Status	Special Concern	Special Concern
Invertebrates					
Gypsy Cuckoo Bumblebee	<i>Bombus bohemicus</i>	Data deficient	No Status	Endangered	Endangered
Suckley's cuckoo bumble bee*	<i>Bombus suckleyi</i>	Not assessed	No Status	Threatened	Not Listed**
Yellow-banded bumble bee	<i>Bombus terricola</i>	Not at Risk	No Status	Special Concern	Special Concern
Transverse lady beetle	<i>Coccinella transversoguttata</i>	Not assessed	No Status	Special Concern	Special Concern
Sources: ¹ Department Environment and Natural Resources, Government of Northwest Territories (2023) ² Department Environment and Natural Resources, Government of Northwest Territories (2022). ³ Government of Canada, Species at Risk Public Registry (2023) * Species of conservation concern ** Under consideration for Schedule 1 status change					

4 Mitigation Measures

Mitigation measures will be implemented to avoid or reduce potential effects of the Project on wildlife habitat, movement, and mortality risk.

4.1 Direct Habitat Loss and Alteration

Mitigation measures to avoid or reduce direct habitat loss or alteration include the following:

- The Project will minimize disturbance to new areas to the extent practical.
- Activities will be restricted to workspaces and access roads. Prior to the start of construction, the boundaries of the work area, staging areas and access roads will be staked and/or flagged.
- Vegetation clearing will be completed outside the migratory bird nesting period of May 4 to August 22 (Zone B8; ECCC 2023, GNWT 2020) and will consider the Critical Breeding Periods for Raptor Species of the Northwest Territories (Shank and Poole 2016) to avoid disturbing species that breed prior to the migratory bird nesting periods.
- Vegetation clearing will be completed outside the core maternity roosting period for bats of May 1 to August 31. If habitat tree removal or general tree clearing is required during the maternity roosting period, a qualified biologist will review the trees to make a determination on bat occupancy before removal.
- Pre-construction raptor stick nest surveys and bear den surveys will be completed in the fall prior to construction in collaboration with GNWT- ECC.
- Travel of construction vehicles will be confined to existing infrastructure roads and trails as much as possible to avoid disturbing vegetated areas.
- Closure and reclamation will promote re-establishment of vegetation ground cover.
- Borrow source vegetated surface material, where present, will be replaced after development is completed.

4.2 Indirect Habitat Loss

The following mitigation measures will be implemented to reduce potential Project-related indirect habitat loss to due sensory disturbance (e.g., noise, lights, dust) or alteration to local wildlife movement. Construction and borrow source development activities will adhere to the applicable recommended setbacks and timing restrictions for wildlife, where possible (see Appendix B).

- Travel of construction vehicles will be confined to existing infrastructure roads and trails as much as possible to avoid disturbing vegetated areas.
- Breaks of approximately 10 m in width should be left in the windrow at approximately 300 m intervals to reduce blockage of wildlife movement.

- Construction and borrow source development activities will be reduced, where possible and where spatial overlap is expected, during sensitive periods for wildlife.
- Borrow development activities will adhere to the applicable recommended setbacks and timing restrictions outlined in the WMMP.
- Blast mats will be used when/if blasting.

4.3 Mortality Risk

Project activities can result in increased wildlife mortality risk (e.g., destruction of nests, dens) due to vegetation removal, vehicular collisions, and human-wildlife conflicts. The following mitigation measures will be implemented to reduce potential mortality risk.

- Personnel will undergo a wildlife awareness program which will include prevention measure for wildlife mortality (e.g., bear safety) and reporting procedures for wildlife-related incidents and protocols to follow when a nest, den, or wildlife species of management concern is observed. This includes completing wildlife sighting and wildlife incident report forms as prescribed in the GNWT-ECC Sample Procedural Manuals & Reporting Templates (GNWT 2019b).
- Caribou and moose will have the right of way in all project areas.
- Vegetation clearing will be completed outside the migratory bird nesting period of May 4 to August 22 (Zone B8; ECCC 2023, GNWT 2020b) and will consider the Critical Breeding Periods for Raptor Species of the Northwest Territories (Shank and Poole 2016) to avoid disturbing species that breed prior to the migratory bird nesting periods.
- Pre-construction raptor stick nest surveys and bear den surveys will be completed in the fall prior to construction in collaboration with GNWT-ECC.
- Selected Project staff will take the GNWT's Migratory Bird Awareness Training Webinar and obtain a certificate to demonstrate proof of training.
- If an active nest is found, beneficial management practices (GNWT 2020b) will be followed, including applying an appropriate setback and timing restriction (Table A-1 in Appendix A) and discussion with GNWT ECC and ECCC.
- Vegetation clearing will be completed outside the core maternity roosting period for bats of May 1 to August 31. If habitat tree removal or general tree clearing is required during the maternity roosting period, a qualified biologist will review the trees to make a determination on bat occupancy before removal.
- Beaver dam removal will be done in accordance with the code of practice: Beaver dam breaching and removal (DFO 2022) and conditions of a GNWT General Wildlife Permit.
- Personnel will not feed, harass, or hunt wildlife while working on the Project.
- An electric fence may be set up around the camp(s) if deemed necessary to deter wildlife.

- Food and other wildlife attractants will be stored in odour-proof containers.
- Equipment, wastes, and contaminated soils will be removed every season once construction is completed.

4.4 Wildlife Deterrence Procedures

Birds will be deterred from nesting on infrastructure by placing covers/screens on vents, holes, and crevices where birds could potentially nest, and if necessary, through active (but non-lethal) disturbance of birds to discourage them from establishing a nest on a construction site. Physical deterrents will not be applied during the nesting season. If bird nesting occurs, the nest will not be disturbed until after the birds have left the area, with clearance to be discussed in collaboration with GNWT ECC and ECCC.

4.5 Closure and Reclamation

The following actions will be taken to close and reclaim project work areas:

- Closure and reclamation will promote natural re-establishment of vegetation ground cover.
- Abandoned sections of the MVWR and access roads will be allowed to revegetate naturally.
- Site grading at closure will approximate pre-development conditions.
- Borrow source vegetated surface material, where present, will be replaced after development is completed.

5 Monitoring and Reporting

Monitoring for the Project includes:

- Systematic observations
- Incidental observations

Pre-construction surveys prior to vegetation clearing will be undertaken by a Qualified Person, if vegetation clearing is planned between May 1 and August 31:

- Bat occupancy
- Migratory bird nesting

Additional pre-construction surveys will be required, in collaboration with GNWT-ECC, including:

- Raptor stick nest survey
- Bear den survey

The location of any sensitive feature observed will be recorded and the appropriate setback and timing restrictions will be applied and GNWT ECC and/or ECCC will be consulted, as necessary.

Additional regular inspection of measures (e.g., sediment control, waste management) will be undertaken by the contractor and all staff will receive training relating to the WMMP and using a wildlife observation reporting form. A local Wildlife Monitor will record daily wildlife observations and all wildlife observations will be reported to INF at the end of each season. The effectiveness of mitigation measures will be continuously evaluated and if notable Project interactions with wildlife (e.g., problem wildlife) or mortality events occur, adaptive management will be used to modify existing mitigation measures to reduce interactions.

The following reporting will be completed:

- Wildlife sightings will be submitted to GNWT ECC Wildlife Management Information System on an annual basis.
- Annual summaries of wildlife sightings will be shared with the NWRRC.
- Incident reports will be completed and shared with the NWRRC and GNWT-ECC.
- A WMMP summary report will be submitted to GNWT-ECC and NWRRC upon completion of the Project.
- Other reporting is to be completed in accordance with a General Wildlife Permit, if/as issued for project activities (e.g., beaver dam removal).

ECCC -CWS will be contacted in the following instances:

- Interactions and incidents involving the potential disturbance of individuals or nests and any mortality events of migratory bird species
- Wildlife monitoring reports and annual reports that pertain to migratory bird species
- Updates to the WMMP that pertain to migratory bird species

6 References

- ECCC (Environment and Climate Change Canada). 2018. General nesting periods of migratory birds. Available at: <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html>. Accessed September 2021.
- ECCC. 2021. Guidelines to reduce risk to migratory birds. Available at: <https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html>. Accessed January 2022.
- GC (Government of Canada). 2021. Species at risk public registry: Species search. Available at: <https://species-registry.canada.ca/index-en.html#/species?sortBy=commonNameSort&sortDirection=asc&pageSize=10>. Accessed September 2021.
- GNWT (Government of the Northwest Territories). 2015. Northern land use guidelines: Northwest Territories seismic operations. Yellowknife, NT. 48 pp.
- GNWT. 2019. sample procedural manuals & reporting templates – wildlife management and monitoring plans. Available at: https://www.enr.gov.nt.ca/sites/enr/files/resources/sample_procedural_manual_and_reporting_templates_june_2019.pdf. Accessed January 2022.
- GNWT. 2020a. Species at risk in the Northwest Territories, 2020. Environment and Natural Resources, Government of the Northwest Territories, Yellowknife, NT.
- GNWT. 2020b. Beneficial management practices for migratory birds in the Northwest Territories. Environment and Natural Resources, Government of the Northwest Territories, Yellowknife, NT.
- GNWT. 2020c. Statutory requirements for wildlife in the NWT. Available at: https://www.enr.gov.nt.ca/sites/enr/files/resources/statutory_requirements_for_wildlife_in_the_nwt_september_2020.pdf. Accessed January 2022.
- IBA Canada. 2021a. IBA Canada interactive map. Available at: <https://www.ibacanada.com/mapviewer.jsp?lang=EN>. Accessed September 2021.
- IBA Canada. 2021b. IBA site summary: Middle Mackenzie River Islands. Available at: <https://www.ibacanada.com/site.jsp?siteID=NT081>. Accessed September 2021.
- Latour, P., J. Leger, J. Hines, M. Mallory, D. Mulders, H. Gilchrist, P. Smith, and D. Dickson. 2008. Key migratory terrestrial habitat sites in the Northwest Territories and Nunavut. Occasional paper number 114, 3rd edn. Canadian Wildlife Service, Yellowknife, NT.

Shank, C. and K. Poole. Critical breeding periods for raptor species of the Northwest Territories.

Available at:

https://www.enr.gov.nt.ca/sites/enr/files/raptor_species_breeding_periods.pdf.

Accessed January 2022.

SLUPB (Sahtú Land Use Planning Board). 2023. Sahtú Land Use Plan. Government of Northwest Territories. Fort Good Hope. Ratified but not available as of October 5, 2023;

see <https://sahtulanduseplan.org/plan>.

Wilson, J. and C. Haas. 2012. Important wildlife areas in the western Northwest Territories.

Environment and Natural Resources, Government of the Northwest Territories, Manuscript Report No. 221. Yellowknife, NT. 223 pp.

Appendix A – Tables

Table A-1 Recommended Activity Restriction Guidelines for Sensitive Wildlife Species¹

Wildlife Species	Feature or Habitat	Specific Conditions	Sensitive Period²	Recommended Minimum Setback Distance (m)
Ungulates (general)	Mineral/salt lick	General development activities	April 1 – July 15	250
Grizzly bear and black bear	Den	If activity is blasting	Oct 1 – May 30	1500
		General development activities	Oct 1 – May 30	800
	Berry habitat	General development activities when bears are observed foraging	Jul 15 – Sep 15	300
Boreal caribou	Species presence	General development activities	Year round	500
Muskox	Species presence	Shut down distance if muskox are in the area	Apr 1 – Jun 15	500
Cougar	Den	General development activities	Apr 15 – Jul 15	750
Wolverine	Den	General development activities	Oct 15 – Jul 15	2000
Lynx	Den	General development activities	Apr 1 – Jul 15	250
Fox	Den	General development activities	May 1 – Jul 15	150
Wolf	Den	General development activities	May 1 – Sep 15	800
Bald eagle	Nest	General development activities	Apr 15 – Aug 31	500
Golden eagle	Nest	General development activities	Apr 15 – Aug 31	800
Northern goshawk and sharp-shinned hawk	Nest	General development activities	Apr 1 – Aug 31	500
Osprey	Nest	General development activities	Apr 1 – Aug 31	1000
Red-tailed hawk	Nest	General development activities	Apr 15 – Aug 31	800

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Wildlife Species	Feature or Habitat	Specific Conditions	Sensitive Period²	Recommended Minimum Setback Distance (m)
Raptors (general)	Nest	General development activities	Mar 1 – Sep 1	1500
			Sep 2 – Feb 28	500
Common nighthawk	Nest	General development activities	May 15 – Aug 15	200
Olive-sided flycatcher	Nest	General development activities	May 1 – Jul 31	300
Rusty blackbird	Nest	General development activities	May 1 – Jul 31	300
Trumpeter swan	Breeding waterbody	General development activities	Apr 1 – Sep 30	800
Waterfowl (general)	Staging area	General development activities when large concentrations of birds are present	Spring/Fall	3000
	Nest sites, staging areas, and concentrations	General development activities	Year round	250
		Pedestrians/ATVs	May 1 – Jul 31	30
All other wildlife	Breeding and birthing areas	Varies with region and species; contact GNWT or ECCC office	Breeding and birthing seasons	250
<p>NOTES:</p> <p>¹ Modified from the <i>Northern Land Use Guidelines: Northwest Territories Seismic Operations</i> (GNWT 2015) and the <i>Sahtu Land Use Plan</i> (SLUPB 202013); the most conservative recommendation is presented.</p> <p>² Sensitive periods are a general guide and specific timing may vary. Year-round avoidance may not always be feasible, and exceptions will be discussed with GNWT ENR to develop appropriate mitigation.</p>				

Appendix B – Statutory Requirements for Wildlife in the NWT



Statutory Requirements for Wildlife in the NWT

September 2020

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*.

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.	Prescribed birds for the purpose of paragraph 51(1) (c) and 52 of the Wildlife Act are birds of prey (raptors) as set out in Schedule B of the Wildlife General Regulations. Bullet (c) protects unoccupied raptor nests.
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.	Subject to sub-section 5.3.(1) of the Wildlife General Regulations, no person shall damage, destroy, disturb, or otherwise adversely affect the summer abode of a bat (also referred to as a summer maternity roost), unless authorized by a licence or permit to do so.
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.	Prescribed birds for the purpose of paragraph 51(1) (c) and 52 of the Wildlife Act are birds of prey (raptors) as set out in Schedule B of the Wildlife General Regulations. Schedule A – Part 1 of the Wildlife General Regulations lists the species prescribed as “big game.”
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	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. (2) Notwithstanding any other provision of	

	<p>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>	<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.</p> <p>Sub-section 8(2) of the Wildlife General Regulations indicates the information that must be included in the report.</p>
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; (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/wildlife-management-and-monitoring-plans 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 impacts on habitat;</p> <p>(b) a description of measures to be</p>	<p>Please consult the WMMP Guidelines www.enr.gov.nt.ca/en/services/wildlife-management-and-monitoring-plans for information about when a WMMP is required and how to develop a WMMP.</p>

	<p>implemented for the mitigation of potential impacts;</p> <p>(c) the process for monitoring impacts and assessing whether mitigative measures are effective; and</p> <p>(d) other prescribed requirements.</p>	
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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

Appendix C – Wildlife Forms

Wildlife Sightings Log

[illegible]

Wildlife Surveillance Monitoring Form

Observers:

Date:

Page:

of:

Wildlife Observed or Wildlife Sign

Time	Location	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

Additional comments or notes:

Reviewed by:

Date:

Follow up:

Bird Nesting / Bat Roosting Activity Monitoring Form

Observers:

Date:

Page:

of:

Location:

Wildlife Observed or Wildlife Sign

Time	Location	Species Observed	Photo #	Nesting behaviour observed	Nests Roost observed (describe)

Record any additional comments on reverse page

Additional comments or notes:

Reviewed by:

Date:

Follow up:

Pre-blast Survey Form

Observer:

Date:

Page: of:

Location:

Blast Plan Reference Number:

Estimated area of blast radius:

Start and end time of Survey:

Time of blast:

Weather conditions/Air Temperature:

Wildlife Observed:

Notes on wildlife detection using binoculars versus thermal imaging device (Were any large mammals observed using one technique and not the other? Please describe including distance to animal .):

Deterrent Actions Required and Wildlife Response:

Pre-Clearing Wildlife Survey

Date: Start time: End time:

Observer(s):

Survey Type (circle): Pre-Clearing Wildlife Survey Bear Den Survey

Feature (circle one): Quarry Quarry access road Road right of way

Start location (UTM): End location:

Wildlife and Wildlife Sign Observations

Time	Species	Observation (observed, tracks, other sign)	Location (UTM)	Comments

Document follow-up actions resulting from any wildlife observations

Thermal Imaging Device Pilot Study Form

Observer:

Date:

Location:

Photo numbers:

Start and end time of Survey:

Large mammal species and group size:

Sky (% overcast): Precipitation (rain or snow):

Daylight (day, night, twilight):

Binoculars make and model:

Thermal imaging device make and model:

How was the large mammal originally detected?

Approximately how far away was it when last observable?

Please check the appropriate box:

	Binoculars	Thermal Imaging Device	Naked Eye
What was the best way to first detect the large mammal?			
What was the best way to track the large mammal?			
Which were you using when you last saw it?			
Overall, what was the best way to observe the large mammal?			

Please record any other useful information, and your suggestions for use of the thermal imaging device:

Occurrence Date/Time:

Date Reported:

Wildlife Incident Record

MAIN CONTACT INFORMATION			
NAME:			
ADDRESS:			
PHONE NUMBER:			
Location of Complaint: (coordinates, km marker, lake, camp)			
Details Taken by:			
Location of Incident (coordinates, km marker, 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"/> Adult
	<input type="checkbox"/> Female		<input type="checkbox"/> Juvenile
	<input type="checkbox"/> Unknown		<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:			

NWT Wildlife Collision Report Form

Occurrence #: _____ RCMP File #: _____

Date of Collision: _____ Time of Collision (if known): _____ Location of Incident - Hwy #: _____

Officer: _____ Complainant: _____

Latitude/Longitude (Use GPS on scene): _____

Location (km marker, general location, which highway): _____

Wildlife

Wildlife Species:
☐ Bison ☐ Moose ☐ White-tailed Deer ☐ Black Bear
☐ Caribou, boreal ☐ Caribou, barren-ground ☐ Caribou, mountain ☐ Other (specify): _____

Total Number of Animals Involved: _____
Males: _____ Calf / cub _____ Yearling _____ Sub-Adult _____ Adult _____ Unknown _____
Females: _____ Calf / cub _____ Yearling _____ Sub-Adult _____ Adult _____ Unknown _____

Number Killed On Impact: _____ Number Destroyed by Officer: _____ Photos of Wildlife: Yes / No

Describe injuries to wildlife: _____

Sample ID#: _____

Samples collected:
☐ Blood ☐ Lymph Nodes ☐ Middle Incisors ☐ Feces ☐ Ear ☐ Tail

Hide Salvaged: Yes / No Meat Salvaged: Yes / No Skull Salvaged: Yes / No

Method of Carcass Disposal: _____

Weather & Road Conditions

Light Conditions:
☐ Daylight ☐ Dawn ☐ Dusk ☐ Night ☐ Unknown

Weather Conditions:
☐ Raining ☐ Cloudy ☐ Clear ☐ Snowing ☐ Fog
☐ Windy ☐ Freezing Rain ☐ Unknown ☐ Other: _____

Road Surface Type:
☐ Asphalt ☐ Gravel ☐ Dirt

Road Description:
☐ Turn ☐ Dip ☐ Rise ☐ Straight & Level

Surface Conditions:
☐ Dry ☐ Wet ☐ Icy ☐ Loose Snow ☐ Packed Snow

Vehicle

☐ Passenger Car ☐ Van/SUV ☐ Pickup Truck ☐ Heavy Truck/Semi-Trailer
☐ Bus/RV ☐ Unknown ☐ Other: _____

Estimate of Damage: ☐ Minimal ☐ Extensive ☐ Totalled ☐ Unknown

Photos of Vehicle Taken? Yes / No

Comments (continue comments on back of this form): _____



Environment & Natural Resources (ENR)

Bear Occurrence Checklist

- Fill out or check all that apply

1. Complainant Details:				
Name, job title and affiliation:				
Contact information:				
Location of complainant: <i>(coordinates, lake or property name)</i>				
Other on-site contact information: <i>(wildlife monitors/site supervisors)</i>				
2. Bear Occurrence Details:				
Date/Time:			Location: <i>(coordinates, lake or property name)</i>	
Type of bear occurrence:	<input type="checkbox"/> sighting	<input type="checkbox"/> encounter	<input type="checkbox"/> injury	<input type="checkbox"/> mortality <i>Ear tag/tattoo #</i>
	<input type="checkbox"/> Other, explain:			
Number of bears:			# of cubs	
Type:	<input type="checkbox"/> black	<input type="checkbox"/> grizzly	<input type="checkbox"/> unknown	
Sex :	<input type="checkbox"/> male	<input type="checkbox"/> female	<input type="checkbox"/> unknown	
Age Class:	<input type="checkbox"/> cub (<1)	<input type="checkbox"/> juvenile	<input type="checkbox"/> adult	<input type="checkbox"/> unknown
Behaviour:	<input type="checkbox"/> fearful	<input type="checkbox"/> not fearful	<input type="checkbox"/> aggressive	<input type="checkbox"/> other
General Observations	<input type="checkbox"/> moving toward site		<input type="checkbox"/> moving away from site	<input type="checkbox"/> at site
Other observations: <i>(i.e. walking, resting, eating, mortality, injury, den site, number of cubs, etc.)</i>				
Has bear(s) been involved in a previous incident:	<input type="checkbox"/> No <input type="checkbox"/> Yes	If yes, explain:		
Did the bear obtain a reward	<input type="checkbox"/> No <input type="checkbox"/> Yes	If yes, explain:		
Any property damage or loss of life:	<input type="checkbox"/> No <input type="checkbox"/> Yes	If yes, explain:		

3. Detection/Deterrent:

Detection system on site:	<input type="checkbox"/> Alarm	<input type="checkbox"/> Dog	<input type="checkbox"/> Motion detector	<input type="checkbox"/> Other:
Deterrence on site:	<input type="checkbox"/> Bear boards	<input type="checkbox"/> Auditory (Yelling/Flares/Alarm/Horn/Bell/Whistle/Cracker shells)		<input type="checkbox"/> Projectile (Rubber Bullets/Firearms)
	<input type="checkbox"/> Electric Fence	<input type="checkbox"/> Chased (Dog, vehicle)		<input type="checkbox"/> Other:
Was deterrence used:	<input type="checkbox"/> No <input type="checkbox"/> Yes	Explain:		
Was the deterrence successful:	<input type="checkbox"/> No <input type="checkbox"/> Yes	Explain:		
Present status of bear with dates:	<input type="checkbox"/> at large	<input type="checkbox"/> captured	<input type="checkbox"/> deterred	<input type="checkbox"/> other

4. Additional Comments

[illegible]