



BC EAO EAC Application – Tenas Project

Section 13.0 Management Plans

Chapter 21 Wildlife Management Plan

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Tenas Project

Section 13.0 Management Plans Chapter 21 Wildlife Management Plan

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ABBREVIATIONS AND ACRONYMS

Abbreviation or Acronym	Long Form of Abbreviation or Acronym
AQMP	Air Quality Management Plan (S13.0-C2)
ARD	acid rock drainage
BC	British Columbia
BC MECCS	British Columbia Ministry of Environment and Climate Change Strategy
BC MEMLI	British Columbia Ministry of Energy, Mines and Low Carbon Innovation
BC MEMPR	British Columbia Ministry of Energy, Mines and Petroleum Resources
BC MFLNRO	British Columbia Ministry of Forests, Lands and Natural Resource Operations
BC MFLNRORD	British Columbia Ministry of Forests, Lands, Natural Resource Operations and Rural Development
BC MOE	British Columbia Ministry of Environment
BC MWLAP	British Columbia Ministry of Water, Land and Air Protection
BMP	best management practices
C	Chapter
CHWSTF	Chemical and Hazardous Waste Storage and Transfer Facility (S13.0-C3)
CEMP	Construction Environmental Management Plan (S13.0-C4)
CMSTHP	Chemicals and Materials, Storage, Transfer, and Handling Plan (S13.0-C3)
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
Code	Health, Safety and Reclamation Code in British Columbia (British Columbia Ministry of Energy, Mines and Low Carbon Innovation [BC MEMLI] 2021)
CPP	Coal Processing Plant
DMP	Discharge Management Plan (S13.0-C6)
EAC	Environmental Assessment Certificate
ECCC	Environment and Climate Change Canada
EMA	<i>Environmental Management Act</i> , 2003 c 53 (GovBC 2003)
EMP	Explosives Management Plan (S13.0-C6)
EMS	Environmental Management System (S13.0-C1)
FMSCP	Fuel Management and Spill Control Plan (S13.0-C7)
FSR	Forest Service Road
GovBC	Government of British Columbia
GovCan	Government of Canada
JAIR	Joint Application Information Requirements for <i>Mines Act</i> and <i>Environmental Management Act</i> Permits (British Columbia Ministry of Energy, Mines and Petroleum Resources [BC MEMPR] and British Columbia Ministry of Environment and Climate Change Strategy [BC MECCS] 2019).
MA/EMA	<i>Mines Act</i> , RSBC 1996, c 293, and <i>Environmental Management Act</i> , SBC 2003, c 53

Abbreviation or Acronym	Long Form of Abbreviation or Acronym
ML	metal leaching
ML/ARDMP	Metal Leaching (ML)/Acid Rock Drainage (ARD) Management Plan (S13.0-C12)
MOC	Management of Change
MTCP	Minesite Traffic Control Plan (S13.0-C10)
MWMP	Minesite Water Management Plan (S13.0-C11)
PAG	potentially acid generating
PAMP	Public Access Management Plan (S13.0-C14) (PAMP)
POC/COC	Parameters of Concern/Contaminants of Concern
POPC/COPC	Parameters of Potential Concern/Contaminants of Potential Concern
Project	Tenas Project
QA/QC	Quality Assurance/Quality Control
QEP	Qualified Environmental Professional
QP	Qualified Professional
RCP	Reclamation and Closure Plan (S13.0-C21)
RISC	Resources Information Standards Committee
ROM	run-of-mine
ROW	right-of-way
S	Section
SARA	<i>Species at Risk Act</i> , SC 2002, c 29 (Government of Canada [GovCan] 2002)
SEMP	Socio-economic Management Plan (S13.0-C16)
SEPSCP	Surface Erosion Prevention and Sediment Control Plan (S13.0-C17)
SPP	Standard Practices and Procedures
TAC	Tenas Access Corridor
TARP	Trigger Action Response Plan
TCL	Telkwa Coal Limited
UWR	Ungulate Winter Range
VC	Valued Component
VMP	Vegetation Management Plan (S13.0-C18)
WHA	Wildlife Habitat Area
WMP	Wildlife Management Plan
WMPRE	Waste Management Plan for Refuse and Emissions (S13.0-C20)

UNITS OF MEASURE

Abbreviation or Acronym	Long Form of Abbreviation or Acronym
°	degree
°C	degree Celsius
%	percent
<	less than
≤	less than or equal to
>	greater than
≥	greater than or equal to
cm	centimetre
ft	feet/foot
km/hr	kilometres per hour
m	metre

EXECUTIVE SUMMARY

This Wildlife Management Plan (WMP) has been developed by Telkwa Coal Limited (TCL) to design measures and processes that will be implemented during the Tenas Project (Project) that are expected to avoid or minimize potential effects of the Project on wildlife and wildlife habitat. Environmental management plans, such as the WMP are a required component of the **Environmental Management System (Section [S] 13.0 - Chapter [C] 1) (EMS)** for mines in British Columbia (BC). The mitigation measures contained within the WMP were designed to avoid and/or minimize the predicted adverse effects of the Project identified in the Environmental Assessment Certificate (EAC) Application: alteration and/or loss of habitat, change in mortality, and change in movement patterns.

The scope of the WMP includes mitigation for both the Wildlife and Avian Valued Components (VCs) and their subcomponents, as identified in the EAC Application. The WMP presents compliance obligations that are either regulatory requirements or standard practices that TCL has committed to and will form the required conditions for the Project under various management plans. The WMP includes a summary of the relationship of the WMP to other management plans that comprise the **EMS**.

The details of the WMP, including implementation, and reporting sections include suggested content from Developing Management Plans for Mines in British Columbia - Wildlife Management Plan (BC MEMPR 2020) provided by the British Columbia Ministry of Energy, Mines, and Petroleum Resources (BC MEMPR). The WMP provides monitoring programs and processes specific to wildlife to:

- ▶ quantify and qualify Project effects (if/where necessary);
- ▶ assess the effectiveness of mitigation measures;
- ▶ provide a mechanism for modification and/or adaptation;
- ▶ identify new issues (should they arise); and
- ▶ identify conditions that will trigger implementation of additional mitigation (if/where applicable).

An adaptive management approach is incorporated into this WMP.

The WMP is applicable during all phases of the mine life including Construction, Operation, Decommissioning and Reclamation, and Post-closure phases of the Project. It is a living document intended to be updated as appropriate during the life of the mine. If monitoring identifies that additional or revised mitigation measures are required, a process of adaptive management will be triggered.

1. INTRODUCTION

This Wildlife Management Plan (WMP) describes mitigation measures developed for the Tenas Project (Project) in accordance with the Policy for Mitigating Impacts on Environmental Values (British Columbia Ministry of Environment [BC MOE] 2014b). In addition, this WMP describes monitoring programs and processes to: quantify and qualify adverse Project effects (if/where necessary); assess the effectiveness of mitigation measures; provide a mechanism for the modification and/or adaptation of the programs and processes if site conditions change or effects are not as predicted; identify new issues (should they arise); and, to provide instructions on why (i.e., regulatory implications), when (i.e., triggers) and how (i.e., corrective actions) to implement additional mitigation (if/where applicable).

This WMP will remain in effect during the Construction, Operation, Decommissioning and Reclamation, and Post-closure phases of the Project and will be subject to ongoing management review and revisions as required. The WMP is a living document and will be updated as appropriate throughout the life of the Project.

The Wildlife and Avian Species Valued Components (VCs), as described in the effects assessment for the Project, comprise species under the broad definition of wildlife, including avian (i.e., bird), mammal, reptile, and amphibian species. From hereon, this collective group of species is referred to as “wildlife”.

2. PURPOSE AND OBJECTIVES

The purpose of this WMP is to outline the regulatory obligations and commitments to avoid or minimize adverse effects on wildlife and wildlife habitat. In this WMP, wildlife includes all species as defined under Schedule A of the *Wildlife Act*, RSBC 1996, c 488 (Government of British Columbia [GovBC] 1996e), excluding species listed under Section 10(1) or Schedule B and C under the Designation and Exemption Regulation, BC Reg 168/90 (GovBC 1990).

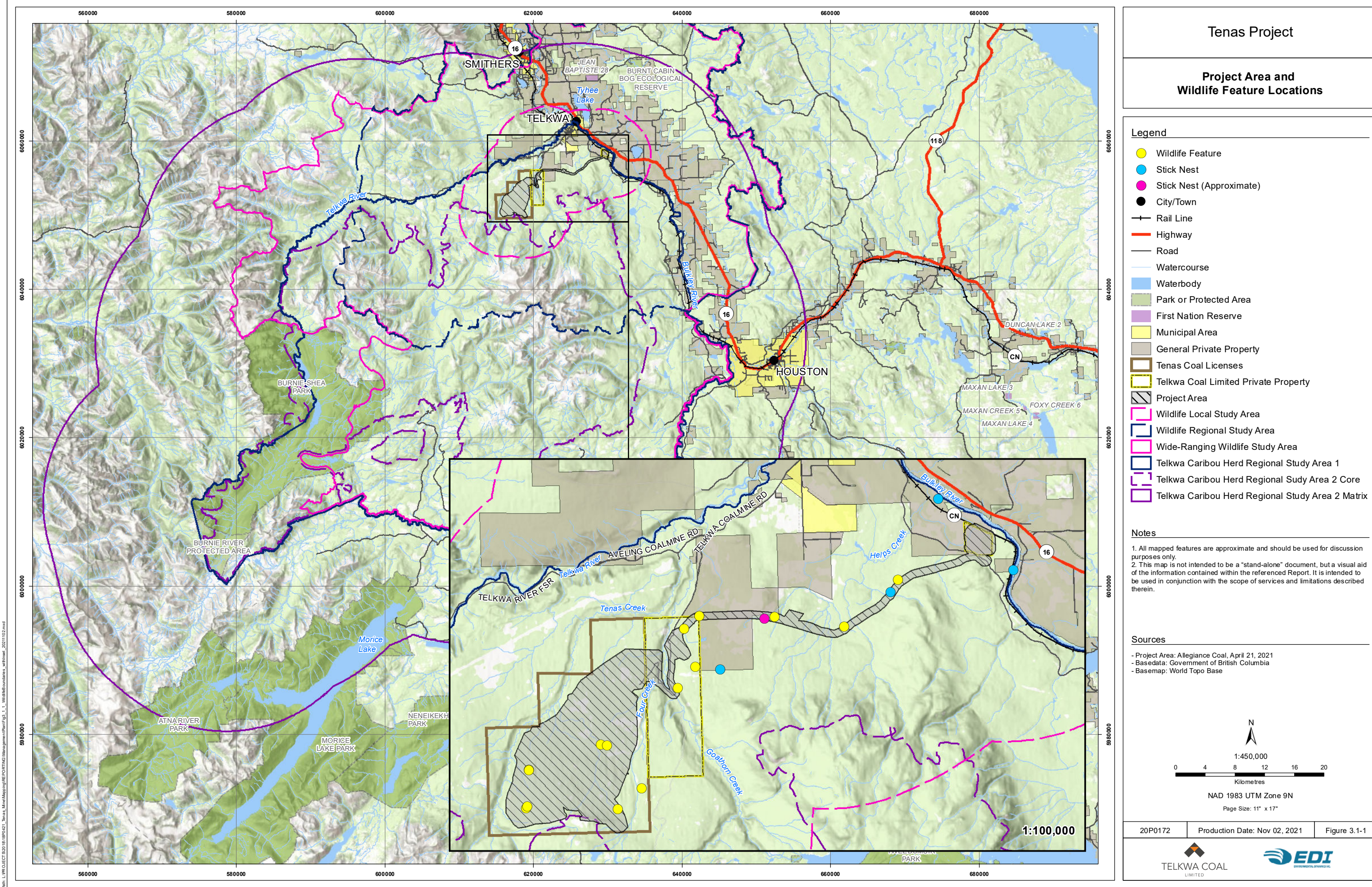
The objectives of the WMP are to:

- ▶ facilitate compliance of the Project with applicable federal and provincial legislation, regulations, and best management practices (BMP);
- ▶ avoid or minimize harmful effects of the Project on wildlife and wildlife habitat;
- ▶ outline the approach to monitor the performance of applied mitigation measures; and
- ▶ describe the adaptive management process and reporting requirements.

3. SCOPE AND SCALE

This WMP is defined within the Project Area, and includes all activities, as well as any operation and/or construction activities that are directly associated with the Project and exist outside of the Project Area. The Project Area is defined as the area within which the Project will be constructed and operated, including the Minesite and access routes. The Project Area encompasses the area within which Project facilities and activities will be carried out and identifies known wildlife features (**Figure 3.1-1**).

This WMP will be in effect during the Construction, Operation, Decommissioning and Reclamation, and Post-Closure phases and ceases to be in force at the final closure of the Project as approved by the regulatory authorities.



4. COMPLIANCE OBLIGATIONS

4.1 Federal Regulatory Requirements

Several federal legislative requirements are applicable to wildlife, and Environment and Climate Change Canada (ECCC) administers or shares responsibility for several Acts addressing legislation directly or indirectly, that are applicable to wildlife. A summary of these requirements and how they apply to the wildlife mitigation and monitoring designed for the Project is provided in **Table 4.1-1**.

Table 4.1-1: Summary of Federal Legislation Applicable to the Wildlife Management Plan (WMP)

Name	Year	Description
<i>Species at Risk Act</i> , SC 2002, c 29 (Government of Canada [GovCan]) (SARA)	2002	SARA protects species listed on Schedule 1 as Extirpated, Endangered and Threatened, and affords species listed as Special Concern the benefits of management planning. Species included in Schedule 1 are established by the federal Cabinet and are based on recommendations by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and consultation with government, Indigenous groups, and the public. SARA focuses on establishing and implementing plans to protect listed species and their critical habitat, reduce threats, and foster recovery. Recovery strategies and management plans have been developed or proposed for the following SARA-listed wildlife species that have the potential to occur: Northern/Southern Mountain population of woodland caribou, western road, little brown myotis, northern myotis, short-eared owl, common nighthawk, and olive-sided flycatcher.
<i>Migratory Birds Convention Act</i> , 1994, SC 1994, c 22 (GovCan 1994)	1994	Canada seasonally hosts approximately 450 species of native birds, the majority of which are protected under this Act. The Act applies to migratory birds (as individuals and populations), their eggs, and their nests in Canada through the implementation of the Migratory Birds Regulations, CRC, c 1035 (GovCan 2020) and the Migratory Birds Sanctuary Regulations, CRC, c 1036 (GovCan 2006). Removal of migratory birds, their eggs, or nests from a site is only permissible, with the appropriate permits, if the migratory birds are causing or may cause damage to property and equipment. Deposit of substances harmful to birds in areas or waters frequently visited by migratory birds is prohibited.

4.2 Provincial Regulatory Requirements

Provincial legislation, regulations, policy, and guidance documents applicable to the Project and relevant to this WMP are described in **Table 4.2-1**. This summary includes legislative requirements that are directly applicable to wildlife and this WMP.

The *Integrated Pest Management Act*, 2003 c 58 (GovBC 2003b) and *Weed Control Act*, RSBC 1996, c 487 (GovBC 1996e) directly relate to vegetation, which indirectly relates to wildlife habitat. Those Acts are referred to in the VMP, which supports this WMP. The *Environmental Management Act*, 2003 c 53 (GovBC 2003a) (EMA). The EMA regulates pollution, hazardous waste, contaminated site remediation, and the discharge of municipal and industrial waste to the environment while ensuring the protection of human health and the environment. It is relevant to wildlife, and it is directly related to the **Discharge Management**

Plan (S13.0-C6) (DMP) and Air Quality Management Plan (S13.0-C2) (AQMP), which both support this WMP.

Table 4.2-1: Summary of Provincial Legislation Applicable to the Wildlife Management Plan (WMP)

Name	Year	Description
<i>Ecological Reserve Act</i> , RSBC 1996, c 103 (Government of British Columbia [GovBC]1996b)	1996	The Act provides for the establishment and administration of ecological reserves, which may be created to protect and preserve species at risk and their habitats (BC Parks 2019). No ecological reserves as delineated by the Government of British Columbia (2019) exist within the study areas for the Wildlife Valued Component (VC).
<i>Environmental Assessment Act</i> , SBC 2002, c 43 (GovBC 2002a)	2002	The Act provides a mechanism for the province to review all major projects proposed in the province to assess for any potentially adverse environmental, economic, social, heritage, or health effects (GovBC 2020a).
<i>Environmental Management Act</i> , 2003 c 53 (GovBC 2003a)	2003	The Act regulates pollution, hazardous waste, contaminated site remediation, and the discharge of municipal and industrial waste to the environment while ensuring the protection of human health and the environment (GovBC 2020b). The Contaminated Sites Regulations, BC Reg 375/96 (GovBC 1996a) of the Act provide quantitative standards to define site contamination and to evaluate reclamation success.
<i>Forest and Range Practices Act</i> , SBC 2002, c 69 (GovBC 2002b)	2002	The Act outlines standards and requirements for how forest and range practices and natural resource activities should be conducted on Crown land in BC in a manner that safeguards protection of natural resources, including wildlife (GovBC 2020c). The Act also regulates forest clearing and applies protection to old growth forests, riparian areas, and wildlife species. Mechanisms within the Act that protect ungulates and species at risk include the establishment of Ungulate Winter Ranges (UWR) and Wildlife Habitat Areas (WHA), and through the Identified Wildlife Management Strategy. A UWR is an area of habitat that is critical to meeting an ungulate species' winter habitat requirements (British Columbia Ministry of Environment [BC MOE] 2021). A WHA is an area of habitat that is critical to meeting the habitat requirements of an Identified Wildlife species (BC MOE 2020a). Identified Wildlife are species designated as Species at Risk or Regionally Important Wildlife (BC MOE 2020b). Within a WHA, activities are managed to minimize any adverse effects to Identified Wildlife (BC MOE 2020a).
<i>Land Act</i> , RSBC 1996, c 245 (GovBC 1996c)	1996	Crown land is partly managed under the authority of the Act, which is the primary legislation the Province of BC uses to convey land to the public for community, business, or industrial use (GovBC 2019b). Sustainable management of Crown land and natural resources is guided in part by the Act and associated Land Use Objectives Regulation, BC Reg 357/2005 (GovBC 2005) in addition to land use plans, which protect species at risk and their habitats within certain geographical regions (GovBC 2020d). Reserves to

Name	Year	Description
		protect wildlife habitat can be established under Section 16 and Section 17 of the Act.
<i>Mines Act</i> , RSBC 1996, c 293 (GovBC 1996d)	1996	The Act describes how mines in BC are to be operated, including administration, permitting, acquisition, delegation of power, inspection, health and safety, penalties, abandonment, and enforcement. The British Columbia Ministry of Energy, Mines and Low Carbon Innovation (BC MEMLI) requires completion of a wildlife assessment and development of an environmental management and reclamation plan to support the mitigation, decommissioning and closure of a project.
Health, Safety and Reclamation Code for Mines in British Columbia (British Columbia Ministry of Energy, Mines and Low Carbon Innovation [BC MEMLI] 2021) (Code)	2021	The Code guides mining operations to minimize associated risks to human and environmental health and safety and provide standards for reclamation, which is a component of wildlife mitigation measures for the Project. Reclamation standards in Part 10 include land use, capability, long term stability, revegetation, watercourse protection, and monitoring specifications.
Joint Application Information Requirements for <i>Mines Act</i> and <i>Environmental Management Act</i> Permits (British Columbia Ministry of Energy, Mines and Petroleum Resources [BC MEMPR] and British Columbia Ministry of Environment and Climate Change Strategy [BC MECCS] 2019). (JAIR)	2019	The JAIR provides direction for developing environmental management plans, including the Wildlife Management Plan (WMP).
<i>Wildlife Act</i> , RSBC 1996, c 488 (GovBC 1996f)	1996	The Act, and associated regulations, defines wildlife as all native (and some non-native) amphibians, birds, mammals, and reptiles that live in BC (British Columbia Ministry of Forests, Lands and Natural Resource Operations [BC MFLNRO] 2020). Under the Act, it is an offense to kill wildlife or to possess wildlife (live or dead or any part of wildlife) except as authorized under a licence or permit. A person must not attract dangerous wildlife (e.g., leaving garbage that attracts bears). Under Section 34 of the Act, it is an offence to possess, take, injure, molest or destroy a bird or its eggs, the nest of an eagle, peregrine falcon, gyrfalcon, osprey, heron or burrowing owl, or the nest of any bird when the nest is occupied by the bird or its eggs.
<i>Water Sustainability Act</i> , SBC 2014, c 15 (GovBC 2014b)	2014	The Act manages the licensing, diversion, and use of water resources in BC. This includes regulation of changes made in and around watercourses, and provision of directives to protect water quantity, water quality and aquatic ecosystems. This is relevant to wildlife species, in particular amphibians.

The Joint Application Information Requirements for *Mines Act* and *Environmental Management Act* Permits (British Columbia Ministry of Energy, Mines and Petroleum Resources [BC MEMPR] and British Columbia Ministry of Environment and Climate Change Strategy [BC MECCS] 2019) (JAIR) for *Mines Act*, RSBC 1996, c 293 and *Environmental Management Act*, SBC 2003, c 53 (MA/EMA) permits provide direction for developing WMPs in Section 9.10 of the JAIR and was utilized as follows:

- ▶ Avoid and minimize effects on wildlife in the Project Area, with reference to focal species of interest and species at risk (see **6.1.1 and 6.1.2**);
- ▶ Provide details on proposed activities for achieving the objectives, including: BMPs throughout the life of the mine; employee education requirements and programs related to those practices; detailed monitoring and reporting plans; provisions for adaptive mitigation; ongoing consultation with stakeholders; and preliminary recommendations for consideration during reclamation planning (see **6.2 and 6.3**);
- ▶ Verify and report that wildlife monitoring programs address requirements outlined and regulated by the British Columbia Ministry of Forests, Lands, Natural Resource Operations and Rural Development (BC MFLNRORD) (see **7. Monitoring**).

4.3 Guidelines and Best Management Practices (BMPs)

Management guidelines and BMPs that are applicable to this WMP are summarized in **Table 4.3-1**.

Table 4.3-1: Management Guidelines and Best Management Practices Applicable to the Wildlife Management Plan (WMP)

Name	Year	Description
Best Management Practices for Amphibian and Reptile Salvages in British Columbia (British Columbia Ministry of Forests, Lands and Natural Resource Operations [BC MFLNRO 2016])	2016	The purpose of these BMPs is to provide guidance on how to plan and implement amphibian and reptile salvages while minimizing adverse effects to the translocated and recipient amphibian and/or reptile populations.
Best Management Practices for Bats in British Columbia (British Columbia Ministry of Environment [BC MOE] 2016)	2016	The purpose of these BMPs is to provide information on the potential effects of different natural resource development activities on bats and their habitats, and guidance on how to minimize these potential effects.
Compendium of Wildlife Guidelines for Industrial Development Projects in the North Area, British Columbia – Interim Guidance (BC MFLNRO 2014)	2014	These guidelines provide direction for considering and mitigating threats to wildlife and wildlife habitat in the North Area (i.e., Peace, Omineca, and Skeena regions) from industrial activities and development. Includes timing windows and suggest setbacks for certain wildlife species and features.
General nesting periods of Migratory Birds (on-line resources) (Environment and Climate Change Canada [ECCC] 2018)	2021	The nesting calendars show the variation in nesting timing by habitat type and nesting zone at the regional scale based on nesting data.
Develop with Care 2014: Environmental Guidelines for Urban and Rural Land Development in British Columbia: Section 4 (Government of British Columbia [GovBC] 2014a)	2014	The purpose of these guidelines is to provide province-wide direction for maintaining environmentally valuable resources during urban and rural land development in BC. The guidelines include information on mitigation measures (e.g., least risk windows, buffers) that can be used to avoid and minimize potential effects.
Guidelines for Amphibian and Reptile Conservation during Urban and Rural Land Development in British Columbia (BC MOE 2014a)	2014	The purpose of these guidelines is to help maintain amphibian and reptile populations and their habitats during urban and rural land development in British Columbia, including suggested mitigation measures. The document is a companion document to Develop With Care 2014:

Name	Year	Description
		Environmental Guidelines for Urban and Rural Land Development in British Columbia (Government of British Columbia 2014).
Handbook for Mineral and Coal Exploration in BC (Association for Mineral Exploration British Columbia et al. 2008)	2008	This handbook compiles existing knowledge and recommended management practices for coal exploration and mining, including practices for water management and reclamation, which is a component of the wildlife mitigation measures for the Project.
Identified Wildlife Management Strategy – Accounts and Measures for Managing Identified Wildlife: Northern Interior Forest Region (GovBC et al. 2004b)	2004	The Accounts and Measures for Managing Identified Wildlife summarize the status, life history, distribution, and habitat requirements of identified species and plant communities. The document also outlines specific guidelines for conservation of habitat and management of identified species.
Policy for Mitigating Impacts on Environmental Values (BC MOE 2014b)	2014	The policy document applies to, the development of mitigation measures and the preparation of mitigation plans.
Procedures for Mitigating Impacts on Environmental Values (BC MOE 2014c)	2014	These procedures outline recommended guidance and approaches for implementing the policy described above. The procedures describe how to select VCs, conduct environmental assessments, apply the mitigation hierarchy, and complete mitigation and monitoring plans.
Wetland Ways: Interim Guidelines for Wetland Protection and Conservation in BC. Wetland Stewardship Partnership (GovBC 2009)	2009	A document providing recommended practices on wetland (i.e., wildlife habitat) protection and conservation to land managers and land users, with the goal of maintained or increased wetland quality and quantity. The document includes specific guidelines for various sectors, including mining.
Developing Management Plans for Mines in British Columbia - Wildlife Management Plan (BC MEMPR 2020)	2020	Document was developed by the British Columbia Ministry of Energy, Mines and Petroleum Resources (BC MEMPR) to provide guidance to Proponents on the information that should be included in a Wildlife Management Plan for their mine project.

4.4 Standard Practices and Procedures

All TCL Standard Practices and Procedures (SPPs) will conform to the Health, Safety and Reclamation Code for Mines in British Columbia (British Columbia Ministry of Energy, Mines and Low Carbon Innovation [BC MEMLI] 2021)).

In addition to regulatory requirements, the Project will implement SPPs that meet or exceed the required laws and regulations.

5. RELATIONSHIP TO OTHER MANAGEMENT PLANS

The Project is governed by an **Environmental Management System (S13.0-C1) (EMS)**, an overarching management plan strategy comprising a set of processes and practices which enable TCL to manage its environmental and safety performance in a holistic manner, within an integrated framework. While the management plans are part of the **EMS**, the **EMS** is not just a collection of management plans.

In addition to the overall guidance of the **EMS**, this WMP has a relationship to other management plans, that also present mitigation measures. Those management plans and their relevance to this WMP are listed in Table 5-1.

Table 5-1: Management Plans with a Relationship to the Wildlife Management Plan (WMP)

Management Plans	Relevance
Environmental Management System (S13.0-C1) (EMS)	All management plans are a part of the EMS.
Air Quality Management Plan (S13.0-C2) (AQMP)	Wind erosion can mobilize sediment (dust), which can reduce wildlife habitat values. Dust suppression techniques in the AQMP will be used to control fugitive dust to avoid and minimize any interactions with wildlife habitat.
Chemicals and Materials, Storage, Transfer, and Handling Plan (S13.0-C3) (CMSTHP)	The release of hazardous materials into the environment can result in the alteration and loss of wildlife habitat, the mortality or morbidity of wildlife, and the alteration of wildlife movement patterns. Methods to minimize the potential for incidental release of hazardous materials into the environment will occur in accordance with the CMSTHP.
Construction Environmental Management Plan (S13.0-C4) (CEMP)	Wildlife management activities will occur in accordance with the CEMP and this WMP as all Project phases are expected to have the same management requirements based on the activity.
Discharge Management Plan (S13.0-C5) (DMP)	Discharge will be managed to avoid and minimize adverse effects on wildlife and wetlands in accordance with the DMP.
Explosives Management Plan (S13.0-C6) (EMP)	Explosions can create sensory disturbances and mobilize sediment (dust), which can reduce wildlife habitat values. The EMP includes measures that will minimize risk of disturbance on wildlife.
Minesite Traffic Control Plan (S13.0-C10) (MTCP)	Wildlife collisions with vehicles can result in the mortality and injury of wildlife and the sensory disturbances of vehicle traffic can result in the alteration and loss of wildlife habitat and changes to wildlife movement patterns. Traffic control measures outlined in the MTCP are expected to be consistent with road and traffic measures in the WMP (see 6.1.4.6) and to minimize the risk of wildlife collisions.
Minesite Water Management Plan (S13.0-C11) (MWMP)	Water management on site will occur in accordance with the MWMP, including interception, conveyance, diversion, storage, and discharge of contact and non-contact water. Effective water management will facilitate hydrologic connectivity across the Minesite and minimize the potential for surface water transport of metals to wildlife habitat and ecosystems downgradient.

Management Plans	Relevance
Metal Leaching (ML)/Acid Rock Drainage (ARD) Management Plan (S13.0-C12) (MLARDMP)	The handling and storage of materials in accordance with the ML/ARDMP is expected to minimize the potential for metals transport and subsequent interactions with wildlife and wildlife habitat.
Reclamation and Closure Plan (S13.0-C15) (RCP)	Revegetation and reclamation is a key part of mitigating and returning wildlife habitat capability within the Project Area and will occur in accordance with the RCP.
Surface Erosion Prevention and Sediment Control Plan (S13.0-C17) (SEPSCP)	Surface erosion and the deposition of sediment can result in the alteration and loss of wildlife habitat. Mitigation measures outlined in the SEPSCP will be used to minimize surface erosion and the deposition of sediment.
Vegetation Management Plan (S13.0-C18) (VMP)	Vegetation management and invasive plants can result in the alteration and loss of wildlife habitat. In addition, pesticides and herbicides will be stored and used appropriately to not harm wildlife. Vegetation and invasive plant management will be completed in accordance with the VMP.
Waste Management Plan for Refuse and Emissions (S13.0-C20) (WMPRE)	Waste management strategies outlined in the WMPRE are anticipated to minimize the potential for incidental release of contaminants that may attract wildlife or adversely affect wildlife or wildlife habitat.

6. DETAILS OF THE WILDLIFE MANAGEMENT PLAN (WMP)

6.1 Mitigation Measures

Mitigation measures outlined in this WMP are designed to avoid or minimize the direct and indirect effects on wildlife within the Project Area, as well as indirect effects on wildlife outside the Project Area (e.g., sensory disturbance). The mitigation measures are outlined in this and related management plans such as the **Vegetation Management Plan (Section [S] 13.0-Chapter [C] 18) (VMP)** and **Reclamation and Closure Plan (S13.0-C21) (RCP)**.

Mitigation measures specific to wildlife and wildlife habitat are based on proven and accepted mitigation used on similar approved projects in this region of BC (e.g., Red Mountain Underground Gold, Blackwater Gold) that had comparable predictions related to effects on wildlife and wildlife habitat and used standard industry guidelines and BMPs. These mitigation measures are applicable during all Project phases and are summarized in the following subsections. The mitigation procedures that will be used to carry out mitigations are provided in **6.2**.

TCL has developed mitigation measures that have been incorporated in the Project's design and/or operational procedures. These mitigation measures are described in **S1.0 Overview of Project Proponent Description** of the **EAC Application**. Those applicable to wildlife and wildlife habitat are summarized in the following subsections.

6.1.1 Mitigations to Avoid Effects

Sensitive environments will be avoided through TCL following these design and engineering principles during pre-construction that will be carried through all subsequent phases of the Project.

- ▶ Avoid known wetlands and sensitive ecosystems such as riparian areas;
- ▶ Avoid activities within watercourses;
- ▶ Implement 'No Activity' buffers for identified features (e.g., bird nests) that were previously documented or identified by methodologies provided in the related management plans, including the **Construction Environmental Management Plan (S13.0-C4) (CEMP)** and **VMP**;
- ▶ Clearly delineate the boundaries of "No Activity" buffers for sensitive features in the proximity of planned disturbances to facilitate avoidance during all phases of the Project, where possible, and
- ▶ Avoid (i.e., with appropriate "No Activity" buffers) known raptor nests along the route of the Tenas Access Corridor (TAC) (where identified during baseline studies).

Wildlife mortality or injury will be avoided through TCL following these design and engineering principles during pre-construction and carried through all subsequent phases of the Project.

- ▶ Establish and implement an onsite policy prohibiting shooting, hunting, and fishing within the Project Area;
- ▶ Use buses and/or vans for employees and contractors as much as practical to reduce the risk of traffic incidents, and to reduce noise and fugitive dust emissions generated by the Project. Bussing options to Witset and/or Houston (if requested and based on sufficient employees in these locations) to facilitate potential employees accessing employment opportunities with the Project;

- ▶ Establish and implement a **Public Access Management Plan (S13.0-C14) (PAMP)** that includes a traffic control and management strategy along the TAC to reduce interactions with wildlife and facilitates movement of livestock, farm machinery, and the public across the TAC, where applicable;
- ▶ Implement a **Minesite Traffic Control Plan (S13.0-C10) (MTCP)**. The **MTCP** will describe the traffic management processes and procedures in place for the Project, including use of the TAC, and will address maximum allowable speeds, rules for passing and parking, “stop” and “yield” locations, priority rules for various vehicles, rules for night operation, maximum operating grades, emergency runaway measures, and shoulder barrier prescriptions (berms).
- ▶ Implement “No Activity” buffers for identified features (e.g., bird nests).

Alteration and loss of wildlife habitat will be avoided through TCL following these design and engineering principles during pre-construction and carried through all subsequent phases of the Project:

- ▶ Develop the open pit in a manner that will allow it to collect water in the Decommissioning and Reclamation, and Post-closure Phase to provide additional sedimentation control;
- ▶ Identify and segregate PAG material while mining the open pit, and place PAG material in management ponds and submerge PAG material under a minimum of 1.0 metre (m) of water within an average of six (6) months after excavation but no longer than 12 months and under at least two (2) m of water once the management pond has met its PAG material storage requirements (North Management Pond is completed first, followed by the East Management Pond and finally the West Management Pond) to prevent potential ARD and subsequent effects on surface water quality;
- ▶ Construct diversion channels where practical to prevent non-contact water from entering the Project Area and remain as non-contact water;
- ▶ No PAG material will be used in construction of any external piles, pads, roads, embankments, buttresses, or for backfilling the open pit, to avoid potential ARD and subsequent effects on surface water quality;
- ▶ Maintain a database of geochemical testing results and material placement to avoid the incorrect placement of PAG material and potential ARD with subsequent effects on surface water quality;
- ▶ Manage light effects using acceptable best management practices BMPs and engineering design; and
- ▶ Clearly delineate the Project footprint boundaries, adhering to construction plans, and restricting identified machine use to defined areas within the Project footprint.

6.1.2 Mitigations to Minimize Effects

TCL will minimize the Project footprint, and thus reduce the amount of habitat alteration and loss of wildlife habitat, through design and engineering as follows:

- ▶ Cluster Minesite components, including the open pit, stockpiles for run-of-mine (ROM) coal, processed coal and processed rock, Coal Processing Plant (CPP), management ponds, and ancillary facilities such as the Maintenance Facility and Administration Building;
- ▶ Align linear Project features (such as powerlines, roads, water distribution) into a common right-of-way (ROW);
- ▶ Place Project features within existing or planned Project component footprints to limit the clearing of vegetation and the salvage of reclamation materials (surface soil, woody debris, and

overburden). For example, the Minesite buildings will be built in areas previously cleared by forestry activity;

- ▶ Minimize the length of haul roads, access roads, and rail line where possible. Use or improve existing roads where practical;
- ▶ Utilize a loop design configuration for the rail that requires half the space and subsequent footprint compared to the standard teardrop shape seen at other operating or proposed coal mines in western Canada;
- ▶ Place reclamation material (surface soil and woody debris) stockpiles within development areas such as the open pit and haul roads to avoid disturbance, while overburden is directly placed on Project components for future reclamation activities;
- ▶ Limit the TAC to a single lane width for long distances and utilize existing Forest Service Roads (FSRs) as much as practicable;
- ▶ Backfill approximately 50 percent (%) of non-coal material back into the open pit;
- ▶ Place processed rock from the CPP within the management ponds versus a separate permanent pile to avoid any possible ARD from this material and reduce Project footprint; and
- ▶ Build, maintain, and use the TAC for hauling processed coal to the Rail Infrastructure for the duration of all Project phases after the Construction Phase to minimize traffic on existing, residential roads.

TCL will minimize the disturbance to wildlife and alteration and/or loss of wildlife habitat through design and engineering as follows:

- ▶ Use buses and/or vans for employees and contractors as much as practical to reduce the risk of traffic incidents, and to reduce noise and fugitive dust emissions generated by the Project;
- ▶ Use dust suppression agents on the rail cars to reduce fugitive dust emissions;
- ▶ Cover super B-train trucks when hauling processed coal from the CPP to Rail Infrastructure to reduce fugitive dust emissions from trucks;
- ▶ Use water and chemical agents on the TAC to reduce fugitive dust emissions, where and when appropriate;
- ▶ Use water and chemical agents, as required, on the processed coal and ROM coal stockpiles to reduce fugitive dust emissions resulting from storage and handling;
- ▶ Utilize low train speeds (10 kilometres per hour [km/hr] within the Rail Infrastructure, and up to 20 km/hr while entering and exiting the Rail Infrastructure) to mitigate vibration and noise; and
- ▶ Post a speed limit of 50 km/hr on the TAC, 70 km/hr on Minesite haul roads, and 30 km/hr on Project service roads. Mine haul trucks within the Minesite portion of the Project footprint will have a maximum operating speed of approximately 35 km/hr, given their size and weight;
- ▶ Use best management stemming techniques (e.g., type of material, size consistency, loading method, and thickness) that will minimize effects of noise and fugitive dust from blast patterns and assist in the complete detonation of drill holes to reduce the introduction of nitrogen species into the surrounding rock per the **Explosives Management Plan (S13.0-C6) (EMP)**;
- ▶ Correctly time blasts to minimize effects of noise, vibration, and fugitive dust from blast patterns;

- ▶ Keep blast patterns small to minimize effects of noise, vibration, and fugitive dust and to reduce the time that patterns need to sleep or wait until they are blasted which reduces the introduction of nitrogen species into the surrounding rock;
- ▶ Monitor actual blast results and implement improvements as required as per the adaptive management process to reduce effects of noise, vibration, fugitive dust and reduce the introduction of nitrogen species into the surrounding rock;
- ▶ Use electronic detonators to minimize effects of noise, vibration, and fugitive dust from blast patterns, and manage misfires to reduce the introduction of nitrogen into the surrounding environment;
- ▶ Use noiseless lead lines on the surface to minimize effects of noise from blasts;
- ▶ Use centrifuges for processed coal dewatering versus coal and/or natural gas fuelled coal dryers to minimize greenhouse gas and dust emissions;
- ▶ Use overburden bentonite liners for management ponds to reduce the amount of groundwater seepage and potential effects on surface and groundwater quality;
- ▶ Use liners in the Tenas Control Pond, Wastewater Storage Pond, Soil Treatment Facility, Potable Water Storage Pond, and sedimentation pond at the CPP site to minimize the risk of seepage to groundwater and potential effects on surface water and groundwater quality;
- ▶ Monitor seepage, groundwater, and surface water levels, and quality/quantity downstream and upstream of the Project as per the monitoring programs set up in the **Minesite Water Management Plan (S13.0-C11) (MWMP)**;
- ▶ Establish trigger levels that require the implementation of contingency mitigation measures described in the **Discharge Management Plan (S13.0-C5) (DMP)** to protect surface and groundwater quality and maintain minimum flow levels downstream of the Project;
- ▶ Establish flocculent addition systems for sedimentation and/or control ponds that will discharge directly to surface waters to provide additional sedimentation control to reduce potential effects on surface water quality;
- ▶ If monitoring indicates, construct wetlands within or downstream of sedimentation and/or control ponds to reduce potential effects on surface water quality; and
- ▶ Dust generation and subsequent deposition on exposed soils and plants because of Project activities will be limited through dust suppression techniques and implementation of the **AQMP**.

6.1.3 Mitigations via Reclamation

TCL will re-establish wildlife habitat as an end land use objective and achieve this trajectory by implementing the following reclamation principles:

- ▶ Use progressive reclamation techniques to limit the amount of disturbance at any given time by sequencing the open pit and stockpiles to the extent feasible, backfilling of open pit where possible, directly placing reclamation materials, and placing excavated materials on previously disturbed areas;
- ▶ Vegetate all temporary surface soil and overburden stockpiles to minimize the potential for erosion and sediment generation, to prevent subsequent potential effects on water quality, and to prevent losses of surface soils;

- ▶ Implement progressive reclamation on embankments, buttresses, backfills, TAC cut and fill slopes, and other Project components where possible to minimize fugitive dust emissions and reduce erosion and sediment generation;
- ▶ The reclaimed landscape will be shaped and contoured to achieve variations of slope steepness, slope length, aspect, and form to assist in creating landform diversity suitable for the establishment of varied plant communities and to reduce visual effects; and
- ▶ Revegetate with native plant species appropriate for the target ecosystems, which will include species for merchantable timber, subsistence foods, and ceremonial purposes in consultation with the Wet'suwet'en.

6.1.4 Description of Mitigations Related to Wildlife

The following subsections provide a description of some key administrative and engineering mitigations that will be in place specifically related to wildlife.

6.1.4.1 Wildlife Education Program

Wildlife interactions with employees, contractors, Project activities, and Project components can result in the mortality, morbidity, or injury of wildlife, changes to wildlife movement patterns, and result in the alteration or loss of wildlife habitat. Educating employees and contractors on the potential for wildlife – human conflicts and actions to avoid or minimize these interactions can be useful in avoiding and minimizing potential Project effects.

Wildlife Education Program will be implemented for employees, visitors, and contractors during all Project phases and will include:

- ▶ Employees and contractors will be educated through a formal induction process about potential wildlife issues, awareness (including bear awareness), wildlife mitigation measures, waste management policies that limit human-wildlife interactions, to not harass wildlife or use vehicles to entice wildlife to move off the road, and about wildlife crossing and habitat corridor signage;
- ▶ Mandatory reporting of wildlife observations and interactions to TCL staff by employees and contractors. Wildlife observations and interactions will be tracked in a logbook with daily logs stored in a digital data storage system that will be maintained by the Environmental Coordinator Logbooks and reports will be available to employees and contractors.;
- ▶ If caribou are observed within the Project Area, the BC MFLNRORD Regional Wildlife Biologist for the Skeena area will be notified; and,
- ▶ Employees and contractors will be trained in appropriate wildlife deterrent techniques.

6.1.4.2 Wildlife Protection Protocols

The following mitigation measures will be implemented to avoid or minimize wildlife habitat interactions that may result in the mortality, morbidity, or injury to wildlife or employees/contractors:

- ▶ Traffic and access control measures, including reducing traffic volume by scheduling truck convoys, using high-volume haul trucks, transporting workers to site by bus, and closing Project roads to the public (e.g., private vehicles, snowmobiles, all-terrain vehicles, hikers) will be implemented;
- ▶ Appropriate traffic signage (e.g., speed limits, wildlife crossing) will be installed along Project haul roads, service roads and the TAC;

- ▶ Wildlife will be allowed to move away or off the road, by slowing down and/or stopping equipment, before resuming normal road speeds for the area;
- ▶ Personal firearms will be prohibited within the Project Area;
- ▶ Policies prohibiting workers from feeding or harassing wildlife within the Project Area/footprint will be implemented;
- ▶ A "no domestic pet policy" will be implemented within the Project Area/Project footprint;
- ▶ Appropriately sized gaps will be maintained in roadside snowbanks to facilitate wildlife crossing and escape;
- ▶ Powerlines will be designed and sited following guidelines for avian protection to minimize collision and electrocution risk on the Avian Species VC (APLIC 2006, 2012). Deflectors will be used on transmission lines and phase conductors will be used on distribution lines. Measures such as spike installation will be taken to discourage birds, particularly raptors, from nesting on utility poles;
- ▶ Following pre-clearing bird nest surveys, active nests and suspected nest locations will be protected with a "no activity" buffer consistent with guidelines, the level of the activity, and the landscape context until the young have successfully fledged, the nest is confirmed as no longer active (e.g., abandoned or depredated), or the nesting window has passed (for suspected nest locations);
- ▶ All nests of raptors listed under Section 34 of the BC *Wildlife Act*, RSBC 1996, c 488 (GovBC 1996f) will be protected (i.e., it is an offence to possess, take, injure, molest, or destroy the nests of certain raptor species (e.g., eagle, osprey) regardless of whether the nests are occupied, except as provided by regulation). As such, the nests of these raptor species will not be disturbed by the Project activities even when the nests are unoccupied. For such nests, a QP will provide guidance on appropriate "no activity" buffers for unoccupied nests;
- ▶ Blasting activities in the vicinity of active raptor nests will be managed to minimize sensory effects (e.g., alter blasting patterns or delay blasting if an occupied nest is visible from the blast pattern and deemed to be in harms way); and
- ▶ A Qualified Professional (QP) will be engaged to provide guidance on appropriate "no activity" buffers and/or alternate mitigation measures as needed if an appropriate mitigation measure is not provided in the available BMPs (see **Table 4.3-1**).

6.1.4.3 Work Timing Windows

Wildlife presence, behaviour, and habitat use can be seasonal, and wildlife may be more sensitive to disturbance during some parts of the year. Project activities (e.g., site clearing, sensory disturbances) have the potential to result in wildlife mortality or injury, alter movement patterns, or result in the alteration or loss of wildlife habitat. Work timing windows will be used to structure Project activities to avoid or minimize these potential Project effects. Regional work timing windows are summarized in **Figure 6.1-1** for the species with sensitive habitat that is known to overlap with the Project, and for which timing windows are known (BC MFLNRO 2014).

The use of work timing windows as a mitigation measure during all Project phases will include:

- ▶ conducting site clearing and other works that involve clearing of vegetation and/or surface soils during least-risk timing windows for wildlife to avoid disturbance during sensitive time periods (e.g., certain times of the day or certain periods of the year) (see **Figure 6.1-1**).

- ▶ consulting with the Environmental Coordinator prior to Project activities that involve vegetation and/or surface soil clearing and implementing the mitigation as described in Pre-construction Wildlife Surveys and Bird Nest Surveys (see 6.2.1 and 6.2.2) if these activities cannot be entirely completed within the lowest risk timing for the species identified in **Figure 6.1-1**.

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Fisher												
Marten												
Bats (maternal)												
Migratory Birds												
Critical Caution (QP to determine mitigation) Lowest Risk (no restrictions apply)												

Figure 6.1-1: Timing window for selected wildlife species

Vegetation clearing (in particular, logging) will likely not occur between April and mid June and in the month of October due to ground and weather conditions (i.e., spring breakup), unless conditions permit. Logging activities will as much as possible, occur between July 1 and March 31 of the subsequent year.

Surveys for wildlife will occur if site clearing and other works that involve disturbance to vegetation and/or soil must occur outside the least-risk timing windows for wildlife. A QP will oversee wildlife survey, and in certain circumstances, the QP may implement wildlife fencing, barriers, and/or acoustic/visual deterrents to deter wildlife from re-entering the work area once it has been declared free of wildlife.

6.1.4.4 Wildlife Deterrents

Mortality may be caused directly by Project components and activities (e.g., vehicle-wildlife collisions; destruction of occupied den sites and hibernacula, entrapment in Project facilities [e.g., buildings, surface water management infrastructure]) (Knight and Gutzwiller 1995, Ashley and Robinson 1996, CBC et al. 2014). Systems to deter wildlife use of an area will be used to avoid or minimize potential mortality, morbidity, or injury.

Wildlife deterrent systems to avoid or minimize potential Project effects during all Project phases will include:

- ▶ Visual and auditory deterrents will be used to deter wildlife from using potentially contaminated areas such as the Soil Treatment Facility. These tools may include a combination of animal detection systems, habitat modifications, physical barriers, visual deterrents, and auditory deterrents, and will vary depending on target species, habituation, and site conditions;
 - ▶ Habitat modifications should consider the species present and their life history requirements to determine the most effective deterrents, which may include reducing the height of herbaceous ground cover to less than or equal to ($\leq$) 36 centimetres (cm), and reducing tree cover that could block the sightline of wildlife crossing of roads, eliminating water sources, and increasing the amount of bare ground (e.g., gravel);
 - ▶ Physical barriers may include driftnet fencing around waterbodies to deter amphibian, reptile, and small mammal access; greater than or equal to ($\geq$) 10 feet (ft) high, well maintained, chain-

- link fence with a 4 ft deep skirt installed at a 45-degree (°) angle to deter medium and large mammal access; or wire grids above waterbodies with streamers or flagging to deter waterbird access;
- ▶ Visual deterrents may include scarecrows, effigies, raptor statues, streamers (e.g., flagging tape), reflectors, flags, or use of falconry (e.g., trained birds of prey);
 - ▶ Auditory deterrents may include acoustic broadcasting of raptor calls, bird distress calls, human sounds, or loud sounds;
 - ▶ Buildings and other Project infrastructure will be designed and maintained to exclude wildlife. Deterrents will be used, as appropriate, to discourage use of Project infrastructure for refuge or shelter by wildlife and to prevent wildlife from potentially becoming entrapped; and
 - ▶ Any deterrent systems installed for the Project to discourage wildlife use will be evaluated on an ongoing basis to determine their effectiveness as wildlife may become habituated to deterrent systems over time. If a deterrent system is found to be ineffective it may be modified, moved, or combined with other deterrent systems prior to being discontinued.

6.1.4.5 Sensory Disturbance

Sensory disturbances are anticipated to alter habitat; however, the extent of the alteration will vary by species, age, and sex. Sensory disturbances can cause short-term habitat avoidance when the noise sources are present and wildlife may return when noise levels decrease; however, loud noises (e.g., blasting) can cause long-term habitat avoidance (Bowles 1995).

Mitigation measures to avoid or minimize the effects of sensory disturbances on wildlife habitat and the movement patterns of wildlife during all Project phases will include:

- ▶ Avoid excessive noise-generating activities whenever practicable;
- ▶ Directed lighting or light shielding will be implemented, rather than broad lighting, and lighting will be focused on work sites and not on surrounding areas. Appropriate lamps will be used, or lamps will be fitted with ultraviolet (UV) filters, and dusk/night use will be limited between May and September, whenever practicable;
- ▶ Lighting should be sensitive to environmental conditions and automatically shut off during daylight hours; and
- ▶ Blasting activities will be managed (i.e., daytime only) to minimize effects on wildlife especially during sensitive time periods (refer to **Table 6.2-1**) or in sensitive habitats (e.g., alter blasting patterns or delay blasting if wildlife is present within the blast personnel clearing radius).

6.1.4.6 Road and Traffic Management

Collisions with Project vehicles and equipment may result in direct mortality or injury of wildlife. Sensory disturbances (e.g., vehicle traffic) can alter the movement of wildlife across a landscape and wildlife may avoid traveling close to Project features (e.g., roads, trails) (Muhly et al. 2011, Leblond et al. 2013). Changes to movement patterns can affect a population's long-term viability, health, mortality, and individual habitat use (Beier 1993, Muhly et al. 2015, Edelsparre et al. 2018).

Mitigation measures to avoid or minimize the effects of roads and vehicle traffic during all Project phases will include:

- ▶ Traffic and access control measures including reducing traffic volume by scheduling truck convoys, using high-volume haul trucks, transporting workers to site by bus, and closing Project roads to the public (e.g., private vehicles, snowmobiles, all-terrain vehicles, hikers) will be implemented;
- ▶ Appropriate traffic signage (e.g., speed limits, wildlife crossing) will be installed along Project haul roads, services roads and the TAC;
- ▶ Wildlife will be allowed to move away or off the road, by slowing down and/or stopping equipment before resuming normal road speeds for the area;
- ▶ Notify the Environmental Coordinator of any roadkill observed on or alongside Project roads. Any wildlife carcasses found within the Project Area will be reported to the BC Conservation Officer Service; carcasses will be disposed of as directed to prevent scavenging;
- ▶ Vegetation management will be incorporated along Project roads and adjacent to management, sedimentation, and control ponds to minimize site attractiveness to wildlife;
- ▶ The use of road salts within the Project Area will be minimized to reduce attractants to wildlife;
- ▶ Appropriately sized gaps will be maintained in roadside snowbanks to facilitate wildlife crossing and escape;
- ▶ Design new Project roads to minimize sightlines for predators, whenever practicable, while still maintaining general road safety;
- ▶ Design and maintain ditches and culverts along Project roads to minimize pooling of water. Roadside pools that may form and remain in place for an extended period will be monitored by the Environmental Coordinator for potential amphibian breeding activities. Appropriate “no activity” buffers will be implemented during the amphibian breeding season (refer to 3.2.3); and
- ▶ Conduct diversion channel and culvert maintenance activities outside of the amphibian breeding window (refer to **3.2.3**), whenever practicable. If diversion channel/culvert maintenance activities must occur during the amphibian breeding window, a QP will be consulted prior to maintenance activities occurring to determine potential effects on amphibians and whether mitigation measures may be required.

6.1.4.7 Sanitary Waste and Hazardous Materials

Mitigation measures to avoid or minimize any interactions between sanitary waste and hazardous materials with wildlife and wildlife habitat during all Project phases will include:

- ▶ Policies prohibiting workers from feeding or harassing wildlife within the Project Area/Footprint will be implemented;
- ▶ A "No Littering" policy within the Project Area will be implemented;
- ▶ Any materials that could act as wildlife attractants (e.g., oils, chemicals, garbage) will be placed, stored, and stockpiled in either animal proof containers or in a manner that minimizes their potential to attract wildlife. If evidence of wildlife presence or access to waste disposal facilities or a waste disposal compliance problem is detected, use of modified systems and/or increase of offsite waste disposal frequencies will be implemented;
- ▶ The use of harmful and hazardous substances will be limited to the extent practical;
- ▶ Hazardous materials will be handled and stored using measures, such as those in the **FMSCP** and **WMPRE**, to avoid attracting wildlife (e.g., wildlife proof containers or exclusion fencing);

- ▶ Chemical hazards will be handled, stored, and disposed of using measures, such as those in the **FMSCP** and **CHWSTF**, to avoid attracting avian species (e.g., use of wildlife proof containers or exclusion fencing);
- ▶ Physical exclusion measures will be employed around hazardous materials to discourage avian use (e.g., wire grids above contaminated waterbodies with streamers or flagging);
- ▶ Physical, visual, and/or auditory deterrents will be used to discourage avian use of Surface Water Management Infrastructure (e.g., channels, ponds) as feeding, breeding, or stopover sites;
- ▶ Vegetation management will be incorporated in the vicinity of contaminated waterbodies to discourage avian use;
- ▶ Implement environmental management plans during hazardous materials storage, handling, and containment activities further to the **Chemical Materials Storage, Handling and Transfer Plan (S13.0-C3) (CMSHTP)**.
- ▶ Implement appropriate hazardous materials management to minimize the risk of accidental spills or leakage described in the **Fuel Management and Spill Control Plan (S13.0-C7) (FMSCP)**;
- ▶ The Project, including along the TAC and Rail Infrastructure, will have spill kits strategically located around site and on TCL and contractor vehicles to allow an immediate response to fuel spills, oil leaks, hydraulic line ruptures, and accidental spills of hazardous materials.
- ▶ Hydrocarbon storage and refueling stations will be located at least 30 m from watercourses, and on level ground;
- ▶ Maintain appropriate fuel, chemical, and materials management to minimize the risk of accidental spills or leakage of concentrate, diesel fuel, other hydrocarbons, and other hazardous materials being shipped to the Project (**FMSCP**);
- ▶ Vehicles and equipment will be purchased that meet regulatory air emission standards. A fleet maintenance program will be implemented to support optimal operation of vehicles and equipment. Deficiencies will be corrected and worn parts replaced as soon as practicable; and
- ▶ Vehicles and equipment will be clean and free of leaks prior to working in proximity to a watercourse and checked routinely.

6.2 Mitigation Procedures for all Project Phases

This mitigation procedural section describes the pre-activity/disturbance for all phases and the processes and procedures that will be utilized during these phases as Project Activity in any phase could influence wildlife if the area has not been disturbed previously or has been reclaimed.

6.2.1 Pre-construction Wildlife Survey

A pre-construction wildlife survey will be completed as Project activities (e.g., site clearing) could result in incidental injury, mortality, or morbidity of wildlife. These surveys will be used to determine the occurrence of any important wildlife habitat features such as active migratory bird nests, raptor stick nests, mineral licks, wildlife dens, bat habitat and hibernacula, or other habitat features that may indicate the presence of wildlife, particularly species at risk. The survey intensity for these surveys may be stratified to focus on areas with the highest likelihood of containing habitat features. The surveys will be overseen by the Environmental Coordinator with consultation of a QP as needed.

Due to the occurrence of suitable fisher habitat in the Project Area, a survey(s) for fisher dens will be completed and mitigation determined for any dens that are seasonally active, with survey intensity focused

on the most suitable habitat available to fisher for denning, prior to vegetation clearing. Surveys will be conducted by a QP under the direction of the Environmental Coordinator.

Due to the potential for bat roosting habitat to occur in the Project Area, an evaluation of the suitability for roosting sites with potential for follow up surveys or additional mitigation (e.g., installing bat boxes) will be used as determined appropriate by the Environmental Coordinator with advice of a QP as needed.

Due to the known seasonal movements of amphibians in the Project Area, in particular crossing the TAC, amphibian surveys will be completed. Emphasis for the surveys will be during the breeding and seasonal movement periods (e.g. spring migration to congregate at breeding sites and during late summer migration when juvenile western toads migrate en mass from breeding grounds), in order to determine locations for placement of crossing structures that allow safe movement during migration periods. Refer to Guidelines for Amphibian and Reptile Conservation During Road Building and Management Activities in British Columbia (BC MECCS 2020) for best practices. A QP will use standard, specialized survey techniques appropriate for western toad. All surveys will comply with the Resources Information Standards Committee (RISC) standards set by the province.

Following the completion of these surveys, all results will be reported to the Environmental Coordinator, including any species at risk detected, wildlife features identified (e.g., bear den, beaver lodge), recommended mitigation (e.g., buffers, work restrictions), and any other relevant information.

6.2.2 Bird Nest Surveys

Project activities may require the clearing of vegetation, moving of brush, or other activities that have the potential to disturb or destroy migratory bird nests. The nesting season for most migratory birds in the Project is May 1 to July 31; however, some species may nest outside of this window (e.g., owls and Canada Jay [*Perisoreus canadensis*]); other species may nest year-round (e.g., Red Crossbill [*Loxia curvirostra*] (ECCC 2018). The least risk timing for the protection of bird nests is August 1 through to April 30 (BC MFLRNO 2014, British Columbia Ministry of Water, Land and Air Protection [BC MWLAP] 2004). Project activities that could disturb or destroy migratory bird nests (e.g., site clearing) should be prioritized to occur outside of the nesting season, whenever practicable.

The potential for nesting birds is highest during the nesting season; therefore, prior to any Project activities that may disturb or destroy a bird nest, a QP will conduct a ground reconnaissance and bird nest survey. The ground reconnaissance will provide information on the bird species present, their abundance, and breeding status and the results will inform the mitigation measures required. The purpose of the bird nest survey is to identify any nests that may require mitigation.

- ▶ Ground Reconnaissance: Qualified Professionals (QPs) will conduct avian point counts to identify the species and relative abundance of birds present. Point counts will be spaced every 300 m and all birds observed or detected within a five-minute period will be recorded. Standard breeding bird survey protocols will be followed (i.e., start no earlier than 30 minutes before sunrise, end no later than four hours after sunrise, no precipitation, light wind (less than (<) 3 Beaufort scale), and temperatures greater than (>) 5 degrees Celsius [$^{\circ}\text{C}$]);
- ▶ Bird Nest Survey: Following the avian point counts, QPs will conduct a nest survey. Behaviors will be used as cues to identify the presence of active nests. The spacing between survey transects and pace of the survey will depend on the ease of locating nests in the given habitat. The time between the nest survey and clearing activities will be a maximum of seven days. If clearing activities have not begun prior to this time, the area will require re-surveying as additional birds may have started new nests. Following the completion of the bird nest survey, the QP will report

the ground reconnaissance and bird nest survey results to the Environmental Coordinator, including any species at risk detected, nests found, buffers applied, and other relevant information; and

- ▶ Nest Buffers and Monitoring: Should a migratory bird nest (or other sensitive wildlife feature) be detected during the bird nest survey, the QPs will record the species and location and apply an appropriate buffer for the nest using surveyor's flagging tape. Buffers will be established around identified nests according to the following criteria: "Petroleum Industry Activity Guidelines" (Environment Canada 2009), primary scientific literature, and advice from the federal government (i.e., Canadian Wildlife Service). Nest monitoring may be required depending on the planned activity, the established buffer, and the species being protected.

Due to the higher risk of activities that occur during the nesting season, general awareness measures for employees and contractors will be used to mitigate effects on nesting birds. Discussions at daily tailgate meetings within this period will include the potential risks to migratory birds and recommended mitigation before work activities begin. Specifically, the following items are to be discussed and documented:

- ▶ all construction personnel involved in site clearing activities will be made aware that federal (i.e., Migratory Birds Convention Act, 1994, SC 1994, c 22 [GovCan 1994] and provincial (i.e., Wildlife Act, RSBC 1996, c 488 [GovCan 1996f]) legislation protects nesting birds;
- ▶ personnel will be made aware that if they see an active nest, they should stop work immediately and notify the Environmental Coordinator, who will then advise how best to protect the nest, including buffer distances;
- ▶ personnel will be made aware that nests can be in trees, shrubs, grass, burrows in banks, tree cavities, floating in wetlands, or on the ground;
- ▶ during work activities, personnel will watch for evidence of normal nesting behaviours (e.g., feeding nestlings) that may indicate that a nest is nearby and active, and abnormal nesting behaviours (i.e., distress calls) that may indicate disturbance to a nest;
- ▶ onsite workers will watch for:
 - ▶ presence of breeding birds (e.g., singing males, males and females together), nests, and/or eggs;
 - ▶ adult birds carrying food or nesting materials;
 - ▶ presence of young (particularly those with downy feathers or those begging for food);
 - ▶ exhibition of defense behaviours (e.g., aggressive behaviours, attacking other birds, alarm calling, 'dive-bombing', distraction displays such as a feigning a broken wing); and
 - ▶ other signs of breeding such as whitewash (i.e., bird feces), feathers, and pellets.

6.2.3 Known Wildlife Features

Several wildlife features (e.g., mineral licks, raptor nests, trails, dens) were identified during baseline studies in the Project Area. To avoid disturbance to these features, a QP will verify and flag the location during layout (i.e., to confirm that the TAC alignment and/or Project Components do not overlap with the known features and is ideally laid out outside of a setback distance from the feature). If there is overlap into the setback distance of the feature, the QP will assess the feature for use during the appropriate season and apply the appropriate mitigation measures provided in 6.1 to these features. Refer to **Figure 3.1-1** and **Appendix 4.8-A Wildlife Baseline Report** and **4.9-A Avian Baseline Report** of the **EAC Application** for details of the locations of known features.

6.2.4 Wildlife Permits

Permits under the *Wildlife Act*, RSBC 1996, c 488 (GovCan 1996f) may be required to handle wildlife if Project activities necessitate the salvage and relocation of wildlife species for their protection (e.g., amphibians). The Environmental Coordinator will be responsible for obtaining permits, complying with the terms of the permit, and any follow-up reporting or data submission.

6.3 Wildlife Incidents

In all Project phases including construction, the design, operational procedures, and mitigation measures are anticipated to avoid or minimize the likelihood of mortality, or injury to wildlife; however, procedures are required to respond to potential wildlife incidents. If dead, injured, or otherwise affected wildlife are found, the following steps will be taken (**Figure 6.3-1**).

All wildlife incidents will be reported immediately to the Environmental Coordinator. Any confirmed or suspected wildlife mortalities resulting from Project activities will be recorded with the following information: species, time, date, location, and contact information for the collector. The incident will be investigated for root cause and corrective actions applied, and the investigation will be documented. Smaller specimens will be kept frozen in a plastic bag until they can be delivered to a local BC MFLNRORD office, and larger specimens will be reported to the BC Conservation Officer Service and disposed of, as directed to prevent scavenging.

If injured or contaminated wildlife are found, the Environmental Coordinator will contact BC MFLNRORD to determine the appropriate course of action. Unless otherwise directed by BC MFLNRORD, only individuals with a permit under the *Wildlife Act*, RSBC 1996, c 488 (GovCan 1996f) will be allowed to handle any wildlife. Injured wildlife will be transported to the nearest open veterinary clinic, wildlife rehabilitation center, or other facility designated by BC MFLNRORD. Only a certified veterinarian will direct or undertake the medical treatment or euthanasia of wildlife.

If any wildlife is found trapped or otherwise affected by Project activities, the Environmental Coordinator or Environmental Technician will direct the required actions. If it can be done without capture and risk to the safety and health of the wildlife and workers, the trapped wildlife will be freed immediately, and the incident reported to the Environmental Coordinator.

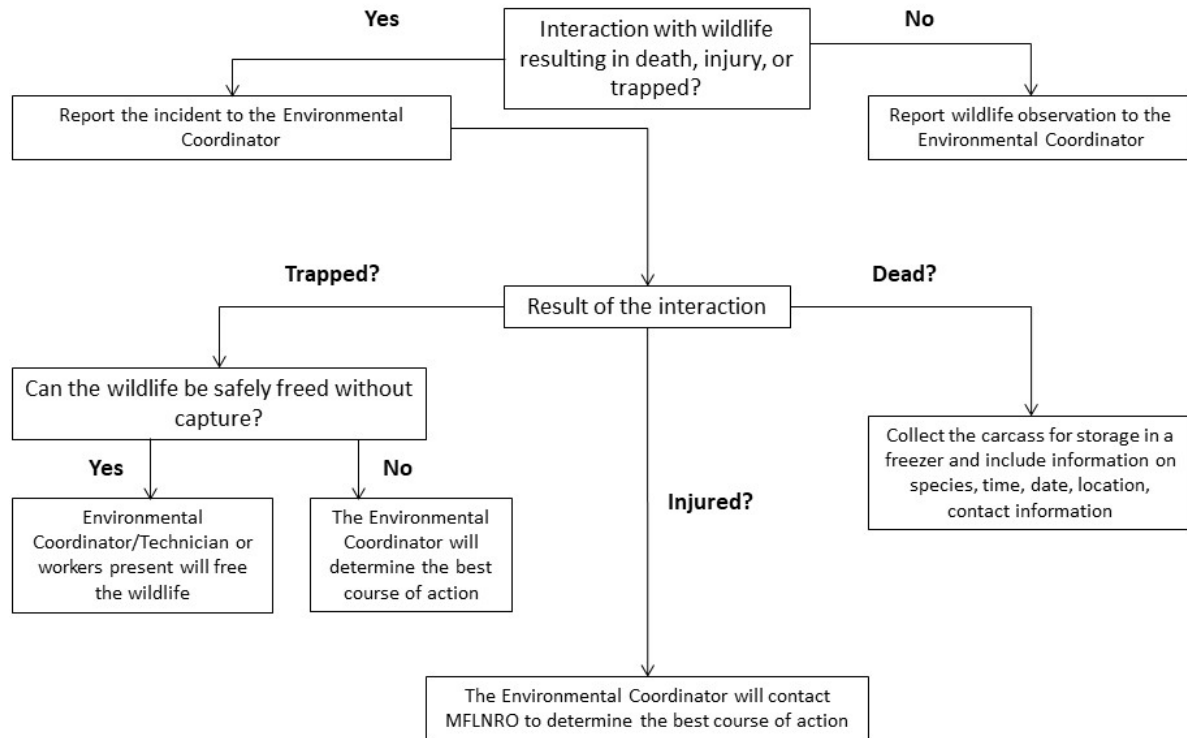


Figure 6.3-1: Mitigation procedure flow chart to follow in the event of a wildlife incident

7. MONITORING

The WMP will be supported by monitoring, and the implementation of mitigation measures. Monitoring of Parameters of Potential Concern/Contaminants of Potential Concern (POPC/COPC) and Parameters of Concern/Contaminants of Concern (POC/COC) identified for aquatic life, wildlife, terrestrial vegetation, human health, and land uses will be conducted for soils, vegetation, sediment, and surface and groundwater.

Wildlife monitoring has been specifically requested to be considered in recent projects. The TCL program consists of setting up six (6) remote cameras onsite that will be downloaded during either the revegetation or water monitoring site visits. This data will be reviewed and provided in the reclamation and annual site reports.

7.1 Mitigation Implementation

The Environmental Coordinator will be responsible for verifying that the Project design, operational procedures, and mitigation measures outlined in **6.1** and **6.2** are implemented and will document the following:

- ▶ Project design fundamentals in place (e.g., ground disturbance is minimized through clustering of components and known nests/features were avoided);
- ▶ new personnel wildlife inductions completed (i.e., keep a training log, verify for each new worker);
- ▶ wildlife protection protocols were enacted and ongoing; no hunting/fishing; nests were protected;
- ▶ wildlife timing windows: activities were scheduled with consideration of timing windows and procedures were completed accordingly (e.g., ground reconnaissance and pre-disturbance and nest surveys);
- ▶ wildlife observations were reported and documented; and
- ▶ all wildlife incidents were reported and assessed, documented and corrective actions developed and appropriately applied.

7.2 Mitigation Effectiveness

The effectiveness of mitigation measures will be assessed by monitoring the following:

- ▶ New worker wildlife inductions: all workers are aware of the WMP;
- ▶ Wildlife protection protocols: nests that were found when clearing occurred during the breeding window and birds successfully fledged from the nest. Wildlife continued to use habitat features that were in the vicinity of the activity (if the species were using the habitat prior to the Project activity);
- ▶ Deterrents: Wildlife were prevented from entering areas or water storage where they could become entrapped, resulting that a species' normal movements were not adversely affected;
- ▶ Wildlife observations were reported by a variety of staff and contractors and were continuously reviewed by the Environmental Coordinator for opportunities for adaptive management;
- ▶ All wildlife incidents were reported and were assessed, corrective actions determined and applied, evidence of corrective actions resulting in positive outcomes (i.e., prevention of recurring incident or improvement to mitigated outcomes [e.g., fewer or no additional incidents). If reminders of, or

new wildlife policies are needed, provide to Telkwa Coal Limited (TCL) or contractor personnel as required. This will be conducted under the Management of Change (MOC) process in the EMS;

- ▶ Examples of wildlife incidents that will be reported to the Environmental Coordinator include, but are not limited to, the following:
 - ▶ an animal is found injured or dead within the Project Area;
 - ▶ an observation (i.e., a Chance Find) of a nest or wildlife feature that was not located prior to work initiated at a new location;
 - ▶ a risk of injury to wildlife or workers due to a conflict with wildlife;
 - ▶ fishing or hunting while on or travelling to the work site; and,
 - ▶ a wildlife habitat feature, or nest was flagged but the setback was not maintained.

7.3 Trigger Action Response Plan (TARP)

The Trigger Action Response Plan (TARP) provides examples of Project activities that may affect wildlife, the trigger, and the appropriate actions and protocols to be followed in response. The examples in **Table 7.3-1** are not exhaustive and if other actions are noted, the Environmental Coordinator will appropriately and timely revise the TARP through the adaptive management process.

Table 7.3-1: Trigger Action Response Plan (TARP)

Item/Activity	Normal		Level 1		Level 2		Level 3	
	Trigger	Action/Response	Trigger	Action/Response	Trigger	Action/Response	Trigger	Action/Response
Work Site Operation	Waste (e.g., food) at work sites.	Implement waste management mitigation measures. See Waste Management Plan for Refuse and Emissions (S13.0-C20) (WMPRE) .	Wildlife (e.g., bear) is observed around camp or work sites.	- Fill out a wildlife observation report (e.g., per Appendix 13.21-A Wildlife Observations Log). - Review area around camp and work sites for attractants (e.g., food, garbage). - If detected, remove items, review waste management systems, and address issues as necessary. - Review worker education materials related to waste management.	Wildlife is regularly observed around work sites.	- Contact the Environmental Coordinator to review the detection. - Fill out a wildlife observation report (e.g., per Appendix 13.21-A Wildlife Observations Log). - Review area around work sites for attractants (e.g., food, garbage). - If detected, remove items, review waste management systems, and address issues as necessary. - Contact BC Conservation Office and seek advice on suitable action to be taken.	Wildlife at work sites becomes a nuisance or aggressive.	- Contact the Environmental Coordinator to review the incident. - Fill out a wildlife observation report (e.g., per Appendix 13.21-A Wildlife Observations Log). - Review area around camp and work sites for attractants (e.g., food, garbage). - If detected, remove items, review waste management systems, and address issues as necessary. - Request assistance from the BC Conservation Office to address problem wildlife.
Hazardous or Contaminated Waste	Storage of hazardous or contaminated waste.	Implement environmental contaminants mitigation measures. See Chemicals and Materials, Storage, Transfer, and Handling Plan (S13.0-C3) (CMSTHP) .	Wildlife (e.g., bear) is observed around environmental contaminants.	- Fill out a wildlife observation report (e.g., per Appendix 13.21-A Wildlife Observations Log). - Review area around environmental contaminants for wildlife access point(s) and address issues as necessary.	Wildlife is observed accessing environmental contaminated site or materials.	- Contact the Environmental Coordinator to review detection. - Fill out a wildlife observation report (e.g., per Appendix 13.21-A Wildlife Observations Log). - Review area around environmental contaminants for wildlife access point(s) and address issues as necessary. - Determine if wildlife is still present, and if injured or dead. - Close access points, assess the situation, and determine if adaptive management is required for wildlife exposure to environmental contaminants.	Wildlife is trapped in an environmental contaminant site or found injured or dead due to environmental contaminants.	- Contact the Environmental Coordinator to review the detection. - Contact BC Conservation Office and seek advice on suitable action to be taken. - As appropriate, contact the British Columbia Ministry of Forests, Lands, Natural Resource Operations and Rural Development (BC MFLNRORD) for advice on wildlife mortality. - Fill out a wildlife observation report (e.g., per Appendix 13.21-A Wildlife Observations Log).
Vegetation Clearing or Grubbing	The clearing of any vegetation or grubbing (e.g., brush piles, natural ground cover).	Review proposed work with Environmental Coordinator to determine if there are wildlife concerns (e.g., sensitive areas, wildlife windows).	The clearing of any vegetation or disturbance of ground materials (e.g., brush piles, natural ground cover) near sensitive areas or within wildlife windows.	- Contact the Environmental Coordinator to review work plan. - Qualified Professional (QP) to conduct a wildlife ground reconnaissance and/or bird nest survey.	If wildlife feature(s) (e.g., dens) or bird nest(s) are detected.	- Contact the Environmental Coordinator to review the feature detected. - Implement appropriate buffers, potentially reschedule work, provide reminders to workers about wildlife features or bird nests, and implement appropriate mitigation measures. - Fill out a wildlife observation report.	A wildlife feature or bird nest is found disturbed or destroyed.	- Contact the Environmental Coordinator to review the detection. - As appropriate, contact BC MFLNRORD for advice on wildlife mortality. - Fill out a wildlife observation report (e.g., per Appendix 13.21-A Wildlife Observations Log).
Vehicle/Equipment Operation	Movement of vehicles or equipment along Tenas Project (Project) roads.	Implement traffic mitigation measures. See Minesite Traffic Control Plan (S13.0-C10) (MTCP) .	Wildlife is detected beside or on a road.	- Slow down or stop vehicle/equipment If it is safe to do so. - Let the wildlife move off the road and/or out of harms way on their own accord. - If other drivers are present in the area, advise them of the observation on the radio. - Fill out a wildlife observation report (e.g., per Appendix 13.21-A Wildlife Observations Log).	Vehicle – wildlife collision near miss (e.g., wildlife is almost hit by a vehicle/equipment).	- Slow down or stop vehicle/equipment If it is safe to do so. - Assess the situation, and if the animal is still present on or adjacent to the road, let the animal move off the road and/or out of harms way on its own accord. - If other drivers are present in the area, advise them of the observation on the radio. - Fill out a wildlife observation report (e.g., per Appendix 13.21-A Wildlife Observations Log).	Vehicle – wildlife collision	- Pull over when it is safe to do so. - Assess condition of the animal, if possible and safe to do so. If there is a road hazard, advise other drivers via radio. - Contact the Environmental Coordinator to review the incident. - As appropriate, contact BC MFLNRORD for advice on wildlife mortality. - If there is roadkill. wildlife carcasses will be reported to the BC Conservation Officer Service and disposed of, as directed to prevent scavenging. - Fill out a wildlife observation report (e.g., per Appendix 13.21-A Wildlife Observations Log).

7.4 Schedule

It is not feasible to provide when specific commitments will be completed as many are linked to activities that will occur throughout the life of the Project. The following draft schedule will be followed to complete the commitments in this management plan:

- ▶ Training will be completed for all employees, contractors, and visitors during site induction (including this WMP) which occurs prior to these groups starting work;
- ▶ Implementation of site-specific mitigation measures will be completed during mining activities in any given year;
- ▶ Monitoring will be completed annually, and
- ▶ Reporting will be completed annually.

7.5 Record Keeping

All observations of species of interest, including all bear observations, bird nests, wildlife incidents, and any inefficiencies, inconsistencies, or suggestions for improvements to the WMP, are to be reported directly to the Environmental Coordinator or through the Environmental Technician to the Environmental Coordinator, and recorded in a wildlife observation report. If reported verbally, the Environmental Coordinator will fill out a wildlife observation report on behalf of the employee or contractor. All wildlife observation reports will be stored in a wildlife log and then entered by the Environmental Coordinator or Environmental Technician into a digital data entry system for long-term storage and data review. The Environmental Coordinator will be responsible for the development and maintenance of the wildlife log and digital data storage system.

All wildlife observations and incidents and the implementation of any mitigation measures, monitoring programs, and adaptive management will be documented in a daily log by the Environmental Coordinator or Environmental Technician. All daily logs will be stored in the wildlife log and the digital data storage system.

An annual internal report will be completed by the Environmental Coordinator that summarizes all monitoring and management activities, assessments of key performance objectives, wildlife observation reports, wildlife incidents, and any changes to the WMP made through the adaptive management process and Management of Change process in the EMS.

7.6 Quality Assurance/Quality Control (QA/QC)

Quality assurance and quality control (QA/QC) will be followed during all surveys and monitoring programs including:

- ▶ verifying that all personnel have appropriate training and monitoring experience for specific tasks undertaken;
- ▶ monitoring activities will be documented using standardized data forms;
- ▶ all records will be reviewed to standardize data accuracy and transferred to a database; and
- ▶ assessments and monitoring documents will be updated throughout the life of the Project and will utilize reference materials and data forms and follow current regulations, legislation, SPPs, and BMPs applicable to the Project.

7.7 Performance Objectives

Performance objectives to ensure the proper implementation of this WMP are shown in **Table 7.7-1**, which highlights the performance objectives and targets required to ensure the proper implementation of this WMP.

Table 7.7-1: Performance Objectives

Objective	Target
Tenas Project mitigations are verified to be effective	Ground disturbance was less than or equal to planned levels per the Construction Environmental Management Plan (S13.0-C4) (CEMP) .
New worker induction completed	All workers and contractors onsite received an induction prior to starting work, including details on the objectives in this Wildlife Management Plan (WMP) and general wildlife education.
Wildlife protection protocols implemented	Surveys were completed for fisher dens and if found, dens were avoided until animals have left them. Raptor nests and other bird nests were avoided (i.e., with appropriate 'no activity' buffers) for known nests along the route of the Tenas Access Corridor (TAC) and/or Minesite. Confirmed or suspected wildlife mortalities resulting from Project activities were recorded, investigated, and reported, if necessary, to British Columbia Ministry of Forests, Lands, Natural Resource Operations and Rural Development (BC FLNRORD). No wildlife incidental injuries or mortalities occur; target zero.
Work timing windows used to structure Project activities	All activities were scheduled with consideration of timing windows and vegetation clearing was partially or completely avoided during the highest risk periods for wildlife detailed in Table 6.1-1. Nests found when clearing occurred during breeding windows were not physically disturbed and young successfully fledged from the nest. Wildlife continued to use habitat features that were in vicinity of the Project Area (if the features were used prior to the start of the Project).
Wildlife deterrents implemented	Wildlife was prevented from entering operating areas, buildings and/or water storage facilities where they could become entrapped or prevented from normal daily or seasonal movements.
Wildlife observations recorded	Observations were reported by a variety of staff and contractors; all reported observations were reviewed in a timely manner by the Environmental Coordinator and recorded. Wildlife observations do not trend down over time as the Project develops.
Wildlife use of reclaimed areas confirmed	Wildlife use of successfully reclaimed progressive reclamation areas and reclaimed areas during the Decommissioning and Reclamation, and Post-closure phases were recorded and assessed. Wildlife observations continually improve with time as reclamation activities mature.
Wildlife incidents recorded and corrective actions implemented	Wildlife incidents were recorded, corrective actions developed and there is evidence that corrective actions resulted in positive outcomes. Corrective actions were applied through the adaptive management process and if changes were needed in the WMP and/or in Standard Policies and Procedures (SPPs), it was done through the Management

Objective	Target
	of Change (MOC) process in the Environmental Management System (EMS).
Wildlife health assessed through monitoring of Parameters of Potential Concern/Contaminants of Potential Concern (POPC/COPC) and Parameters of Concern/Contaminants of Concern (POC/COC) for soils, vegetation, sediment, and surface and groundwater	Verify that levels of POPC/COPC and POC/COC are not above predicted levels. See Trigger Action Response Plan (TARP) in Section 6.6 of the Discharge Management Plan (S13.0-C5) (DMP). If levels are above predicted levels in any media, select wildlife will be monitored to analyze if that would cause measurable adverse effects to the overall population in the Regional Study Area (RSA).

8. REPORTING

8.1 General Reporting

Reporting will be used to confirm consistent implementation of the WMP, including wildlife incidents, adaptive management measures employed, and the results from mitigation and monitoring programs. Summary reports of monitoring activities and results will be compiled and reviewed annually.

8.2 Compliance Reporting

Compliance reporting will be subject to the Environmental Assessment Certificate (EAC), *MA/EMA* permit conditions. The information gathered during monitoring practices will be summarized, with appropriate information from other management plans, into an Annual Environmental Management Summary Report and upon permitting completion, the Annual Environmental Reports as required by *MA/EMA* permits. Community engagement activities will be an aspect of the **Socio-economic Management Plan (S13.0-C16) (SEMP)**. The **SEMP** will have requirements related to reporting on community engagement programs.

8.3 Internal Reporting

All wildlife observations and incidents, recommendations, the results from implementation of mitigation measures, monitoring programs, and adaptive management will be documented in a daily log. A template for wildlife observations is provided in **Appendix 13.21-A Wildlife Observations Log**. The Environmental Coordinator will establish the format for daily reports. All daily logs will be stored in a digital data storage system that will be maintained by the Environmental Coordinator. Details of the monitoring will be reported internally on an annual basis according to the adaptive management framework of the **EMS**. The report will provide monitoring results, assessment of Performance Objectives in **7.7**, summarize and evaluate the success of wildlife and wildlife habitat mitigation and control measures for the Project, and identify management reviews and adaptive management strategies that were employed.

TCL staff or contractors will be strongly encouraged to report any inefficiencies to TCL management for evaluation and consideration.

9. ROLES AND RESPONSIBILITIES

Primary responsibilities have been assigned to the following roles or groups:

9.1 Mine Manager

The Mine Manager bears overall responsibility for all phases of the Project, and responsibility for onsite environmental monitoring and compliance. The Mine Manager reports to the executive steering committee for TCL and will coordinate with this group to ensure that Project objectives are being met.

The Mine Manager will:

- ▶ implement the WMP;
- ▶ provide the necessary budget and resources to allocate sufficient resources to carry out the WMP and
- ▶ facilitate the annual review of the WMP.

9.2 Mine Superintendent

The Mine Superintendent reports to the Mine Manager and is the responsible authority to provide adequate resources required to implement and adhere to the WMP and support the Environment Department, including the Environmental Coordinator, Environmental Technician, and QPs.

The Mine Superintendent will:

- ▶ complete an annual review of the WMP; and
- ▶ support the Environmental Coordinator in addressing any wildlife interactions and/or corrective actions that are to be documented and dealt with.

9.3 Environmental Coordinator

The Environmental Coordinator reports to the Mine Superintendent and is responsible for the WMP being followed by all Project staff and supervises the Environment Department's environmental monitoring and inspection programs. The Environmental Coordinator reports to the Mine Superintendent.

The Environmental Coordinator will:

- ▶ act as a resource to the Project by providing guidance relating to permit conditions, commitments, regulations, acts, interpretation of legislation and WMP BMPs;
- ▶ be the liaison for government agencies for wildlife permitting and non-compliance incidents;
- ▶ be the liaison for Indigenous groups, through their designated representatives, for wildlife permitting as well as non-compliance issues;
- ▶ inspect the implementation of WMP BMPs by TCL and oversee that corrective actions are documented and addressed;
- ▶ prepare an Annual Environmental Management Summary Report and upon permitting completion, the Annual Environmental Reports as required by MA/EMA permits;

- ▶ distribute the annual report via Community engagement activities per the **SEMP**. The **SEMP** has requirements related to reporting on community engagement programs;
- ▶ be responsible for inspections, monitoring, and implementation of measures as outlined in this WMP; and
- ▶ conduct an annual review of the WMP.

9.4 Environmental Technician

The Environmental Technician reports to the Environmental Coordinator and will:

- ▶ gather data as required in the WMP; and
- ▶ perform weekly inspections of the adequacy of the WMP BMPs and address (including document) corrective actions under supervision of the Environmental Coordinator. Inspection reports will be maintained in a logbook;
- ▶ provide vacation cover for the Environmental Coordinator;
- ▶ assist the Environmental Coordinator as required with the Annual Environmental Management Summary Report; and
- ▶ assist the Environmental Coordinator with monitoring related to the WMP.

9.5 Qualified Professional (QP)

QPs will be retained as necessary to assist in supporting TCL's activities to follow the WMP. The definition of QPs follows the Code's definition of a qualified professional as the following:

"Qualified Professional means an individual who:

- (a) Is registered, and in good standing, with a professional organization in British Columbia governed under an enactment, and
- (b) Is acting within his or her area of professional expertise."

9.6 Employees and Contractors

Employees and contractors will:

- ▶ complete a site-specific environmental induction and training appropriate to their role;
- ▶ understand and implement the WMP as appropriate to their role;
- ▶ follow BMPs described in the WMP and other management plans;
- ▶ comply with the Code; and
- ▶ report all environmental and safety incidents or dangerous occurrences related to wildlife to their supervisor.

10. COMMUNICATIONS

Communication of the WMP at TCL will be based on internal requirements and will primarily take place through this WMP and relevant SPPs. Any substantial change to the WMP will be communicated to the Project's employees and contractors through a site-wide email, announcements over all radio channels by Minesite supervisors and bulletins posted around the Project's Minesite. When effective to do so, maps will be marked to show the changes. Change management is detailed in **12**.

10.1 Training and Awareness

All employees and contractors will have training and awareness of the Project responsibilities to meet the objectives of the WMP for all Project phases. Training will include an overview of the WMP objectives, mitigation measures, monitoring, and reporting requirements to meet WMP objectives.

A wildlife education program will be developed for and presented to employees and contractors to avoid and minimize potential human conflicts with wildlife. All employees and contractors will receive the wildlife education program before starting work (i.e., during site induction) so that they are trained and aware of the Project's responsibilities to meet the objectives of the WMP. The effectiveness of the wildlife education program will be continually reviewed and updated as necessary. This program will be supported by SPPs, standard reporting forms, information sheets, posters, and signage. The wildlife education program will include an emphasis on:

- ▶ awareness of important wildlife species (e.g., bear, moose, species of conservation concern), bird nests and nesting behaviour, bat behaviour and sensitive times of the year;
- ▶ management of waste and/or wildlife attractants;
- ▶ prohibition of the feeding, attracting, hunting, or harassing of wildlife;
- ▶ prohibition on the possession of firearms;
- ▶ training in bear awareness and encounter response, including viewing a bear awareness instructional video;
- ▶ operating protocols for Project roads; and
- ▶ reporting of wildlife observations and incidents. In the unlikely event that a caribou is observed, BC FLNRORD Regional Wildlife Biologist for the Skeena area will be contacted and provided with the data. A **Wildlife Observations Log** template is provided in **Appendix 13.21-A**.

Additional training will be provided to employees and contractors as required for specific work tasks (e.g., site clearing during breeding bird season, use of deterrents or enclosure) and will occur through site-specific inductions and/or in-person communication and/or training with the Environmental Coordinator, QP, and other relevant employees.

11. EVALUATION AND ADAPTIVE MANAGEMENT

11.1 Evaluation

The WMP will be reviewed by the Environmental Coordinator on an annual basis to comply with regulatory and permit requirements, assess the implementation of the WMP for effectiveness and the appropriateness of mitigation measures, and update the WMP, as appropriate.

The Environmental Coordinator will compare data and trends from monitoring programs and surveys and evaluate the effectiveness of the mitigation measures implemented as directed in the WMP, to determine if adjustments or corrections are required, through the adaptive management program. This process will include a review of the work plan deliverables and input received from Indigenous groups through the **SEMP**.

11.2 Adaptive Management

A philosophy of adaptive management will be adopted to verify that the **EMS** and associated mitigation measures are consistently meeting or exceeding performance targets. Adaptive management is a structured decision-making approach to reduce uncertainty over time via targeted system monitoring. This will be achieved through periodic reviews of the WMP and the results of monitoring programs.

Adaptive management techniques will be employed where measures in the WMP are found to be not performing as designed or expected, and TCL will work towards continual improvement for the Project. The WMP is a living document that will be reviewed and improved as site conditions change and following the evaluation of monitoring and sampling data collected through the life of the Project. TCL will amend the WMP as required based on input from consultations, monitoring results, regulatory or legislative changes, and any updated, improved, or revised BMPs and scientific methods will be considered.

TCL will amend the WMP as required based on annual evaluations and feedback from stakeholders and Indigenous groups. Any proposed changes will be sent out for review by Indigenous groups and communities before being finalized and implemented into the WMP.

If issues involving wildlife are noted during the life of the Project (e.g., wildlife incident, disturbance of wildlife, change in movement patterns, monitored wildlife health or interaction with a species of conservation concern); Project design, operational procedures, and/or mitigation measures will be reviewed and adapted, as and if appropriate, to minimize adverse effects on wildlife. The Environmental Coordinator will investigate opportunities for adaptive management based on observing trends in the wildlife data and will report to the Mine Manager any adapted practices, that resulted in improved outcomes, that should be applied to other areas of the Project.

Incidents will be assessed for root causes and the Environmental Coordinator, or their delegate will design and implement a suitable corrective action. Examples of corrective actions could include:

- ▶ additional training of employees and contractors on procedures;
- ▶ enhancement of or alterations to mitigation measures or monitoring programs;
- ▶ development and implementation of additional mitigation measures or monitoring programs; and/or
- ▶ additional capacity to deliver mitigation or monitoring measures.

Wildlife movement patterns may change over the life of the Project (e.g., in response to changes in suitable habitat) and may result in interactions with Project components and activities (e.g., vehicle traffic). Project design, operational procedures, and mitigation measures have been identified that are expected to minimize the likelihood of these effects occurring; however, TCL has an adaptive management process in place to effectively address any changes in a timely manner.

12. CHANGE MANAGEMENT

Changing any part of the WMP requires a formalized process. If substantial changes are being planned to objectives, management plan structure, operational milestones, communication and/or information management, the MOC procedure in the **EMS** will be followed. All edits and/or updates to this WMP will be controlled through version control and content approval functions.

13. CONCLUSION

Mitigating potential effects on wildlife and wildlife habitat at the Project is important in maintaining regulatory compliance and to avoid and minimize adverse effects on the environment, including wildlife. The WMP has been developed following review of Project-specific baseline wildlife studies and the environmental assessment of the Wildlife VC. Through implementation of the WMP, and adaptive management to address changing site conditions, TCL will use effective strategies and BMPs to avoid and minimize adverse Project-effects on wildlife and wildlife habitat during all Project phases.

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