



# Mitigation Measures and Guidelines for Mineral Exploration Programs in the Boreal Plain (SK2) Caribou Conservation Unit

November 2025

**NOTE FOR PROPONENTS:**

These guidelines are being phased in over 18 months, until May 31, 2027, to promote industry awareness before they are finalized and fully implemented. During this time, the guidelines are not mandatory. However, proponents are encouraged to implement the guidelines in their project submissions.

- Project submissions received during the phase-in period that do not include the mitigation measures and guidance in this document will be eligible for permits until May 31, 2027.
- Project submissions received during the phase-in period that satisfy the requirements in the guidelines will be eligible for permits beyond May 31, 2027.

Feedback on the content of this document submitted during the phase-in period will be considered when the document is reviewed prior to full implementation. Feedback can be submitted to [woodlandcaribouproject@gov.sk.ca](mailto:woodlandcaribouproject@gov.sk.ca).

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## Glossary

**Access (existing):** Previously existing access that can be used for project activities without requiring mechanical vegetation clearing or significant widening and where no previous reclamation or revegetation treatments have been applied.

**Access (new):** Access created for vehicles and machinery larger than ATVs/UTVs/snowmobiles (typically >1.5 m wide and no more than 5 m wide) where any of the following are met:

- No previously existing access is present.
- >2 m tall tree/shrub growth is cleared along an existing linear feature.
- Significant widening of an existing linear feature occurs.

**Access (re-opened):** Access has been refurbished or re-opened for project activities by conducting mechanical vegetation clearing and/or maintenance on previously existing linear features where reclamation treatments may have been previously applied but where  $\leq 2$  m tall tree/shrub growth is cleared. Access created by clearing linear features that have been subject to habitat restoration treatments (e.g. tree planting, revegetation) is considered new, not re-opened.

**Caribou administrative unit:** Smaller defined unit within a caribou conservation unit. These areas are delineated based on administrative considerations and do not represent individual populations. There are three caribou administrative units in the SK2 (Boreal Plain) Caribou Conservation Unit: SK2 West, SK2 Central, and SK2 East.

**Caribou conservation unit:** A type of woodland caribou range with low certainty in the delineated boundary because of a lack of information. There are two caribou conservation units in Saskatchewan: SK1 (Boreal Shield) and SK2 (Boreal Plain). These areas are distinct ecologically (e.g., forest types, productivity, wildfire disturbance) but do not represent distinct caribou populations.

**Caribou habitat management area:** A landscape-level designation in the SK2 (Boreal Plain) Caribou Conservation Unit based on woodland caribou use, habitat potential, and landscape disturbance. Caribou habitat management areas are categorized into three tiers: Tier 1, Tier 2, and Tier 3.

**Ecological Management Specialist:** Ministry of Environment official responsible for reviewing project proposals and issuing authorizations and dispositions under *The Provincial Lands Act, 2016*, *The Crown Resource Land Regulations, 2019* and other regulations that pertain to Crown resource land administered by the ministry.

**Exploration activity area (high):** Areas in Tier 1 caribou habitat management areas in the SK2 (Boreal Plain) Caribou Conservation Unit with relatively high levels of mineral exploration activity.

**Exploration activity area (low):** Areas in Tier 1 and Tier 2 caribou habitat management areas in the SK2 (Boreal Plain) Caribou Conservation Unit with relatively low levels of mineral exploration activity. All areas of Tier 1 and Tier 2 caribou habitat management areas outside of the high exploration activity areas are considered low exploration activity areas.

**Mechanical vegetation clearing:** Clearing vegetation with heavy machinery, including a skidder, dozer, snowcat, mulcher, hydro-axe or similar. Clearing vegetation using a chain saw, brush saw, or other hand-held equipment is considered hand clearing.

**Mitigation measures (standard):** Mitigation measures described in these guidelines for woodland caribou and caribou habitat, which, if committed to in a permit application, require no further environmental

review by the Ecological Management Specialist for caribou considerations. Standard mitigation measures committed to in a permit application will be referenced as conditions of approval in the authorizations and/or permits issued for a project.

**Mitigation measures (non-standard):** Mitigation measures proposed by a proponent in a non-standard mitigation plan accompanying a permit application when the standard mitigation for a project activity cannot be implemented or an innovative alternative is preferred. Non-standard mitigation measures must specify reasonable and prudent measures to meet the intended habitat or sensory disturbance objectives for woodland caribou outlined in these guidelines.

**Non-standard mitigation plan:** A compilation of non-standard mitigation measures for woodland caribou or caribou habitat submitted with a permit application. Non-standard mitigation plans are reviewed by the Ecological Management Specialist as part of the normal environmental review of a proposed project. Commitments made in a final non-standard mitigation plan will be referenced as conditions of approval in the authorizations and/or permits issued for a project.

**Sensitive timing window:** April 1 to July 31. This corresponds to the pre-calving, calving and post-calving periods for woodland caribou when pregnant and lactating female caribou and calves are most sensitive to sensory disturbance.

**Tree hinging/felling:** A functional reclamation technique whereby trees adjacent to a linear feature are felled or partially cut such that they hinge across the feature. This reclamation technique creates microsites for vegetation establishment, deters human access, and slows predator movement along the feature.

**Woodland caribou habitat potential:** A description of the potential of a habitat to provide for necessary life processes for woodland caribou, including foraging, calving and refuge from predators. Habitat potential is based on the forest ecosite classification and considers the optimal state of the habitat, regardless of the current state (e.g. recently burned or otherwise disturbed).

# 1 Overview

Saskatchewan's Range Plans for Woodland Caribou<sup>1</sup> outline the province's landscape management approach to achieving and maintaining self-sustaining caribou populations while acknowledging Traditional land use and allowing for continued economic activity in northern Saskatchewan. Northern industries, including the mineral exploration industry, are playing key roles in achieving self-sustaining caribou populations in Saskatchewan by planning and implementing projects and programs with these outcomes in mind.

This document provides direction for mitigation planning for woodland caribou for mineral exploration activities on provincial Crown resource land in the Boreal Plain (SK2) Caribou Conservation Unit, regulated pursuant to *The Provincial Lands Act, 2016* and *The Crown Resource Land Regulations, 2019*. These guidelines support continued mineral exploration in SK2 in alignment with Saskatchewan's Growth Plan, while managing risks to woodland caribou and caribou habitat.

The objective of mitigation planning for woodland caribou is to avoid or minimize direct and indirect effects of project activities on woodland caribou and woodland caribou habitat to achieve the following outcomes:

- Avoid or minimize direct habitat loss from industrial activity, including the overall contribution to cumulative disturbance.
- Avoid or minimize habitat alteration, degradation, and fragmentation resulting from industrial activities to maintain the function and connectivity of woodland caribou habitat.
- Avoid or minimize sensory disturbance to woodland caribou associated with industrial activities, especially during the most sensitive periods.
- Minimize linear feature density and lines of sight associated with industrial activities to avoid potential increases in predator efficiency and human access.

Mitigation measures and guidelines are provided for the project components listed in Table 1. Mitigation measures proposed following these guidelines will be considered during the normal environmental review of a project proposal. The mitigation commitments in the project proposal will be referenced as conditions of approval in the authorizations and/or permits issued for a project.

These guidelines have been developed by the Ministry of Environment with input from the Saskatchewan Mineral Exploration and Government Advisory Committee (SMEGAC).

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<sup>1</sup> Saskatchewan Ministry of Environment. 2019. Range Plan for Woodland Caribou in Saskatchewan: Boreal Plain Ecozone, SK2 Central Caribou Administrative Unit. Saskatchewan Ministry of Environment, Regina, SK. 90 pp. Available at: <https://publications.saskatchewan.ca/#/products/101694>

Saskatchewan Ministry of Environment. 2021. Range Plan for Woodland Caribou in Saskatchewan: Boreal Plain Ecozone, SK2 West Caribou Administrative Unit. Saskatchewan Ministry of Environment, Regina, SK. 109 pp. Available at: <http://publications.saskatchewan.ca/#/products/103593>

Saskatchewan Ministry of Environment. 2025. Range Plan for Woodland Caribou in Saskatchewan: Boreal Plain Ecozone, SK2 East Caribou Administrative Unit. Saskatchewan Ministry of Environment, Regina, SK. 88 pp. Available at: <https://publications.saskatchewan.ca/#/products/115138>

Table 1. Desired outcomes from applying woodland caribou mitigation measures and guidelines to mineral exploration projects in SK2.

Project Component	Mitigation Measure Outcomes
Operating Period	Avoid or minimize sensory disturbance to woodland caribou, especially pregnant or lactating females and calves (April 1 to July 31).
Access	Avoid or minimize habitat loss, habitat fragmentation and increasing linear feature density.
Clearing	Avoid or minimize direct habitat loss and alteration.
Line Cutting	Avoid or minimize direct habitat loss and alteration and minimize lines of sight associated with linear features.
Temporary Work Camps	Avoid or minimize direct habitat loss and alteration.
Caribou Response	Avoid or minimize sensory disturbance to woodland caribou near active work areas. Contribute caribou observations to support adaptive management, planning and policy development.

## 2 Woodland Caribou Range and Habitat Management Area Tiers in Saskatchewan

Saskatchewan’s woodland caribou range is divided into two woodland caribou conservation units, generally based on the boundaries of the boreal ecozones: the Boreal Shield (SK1) Caribou Conservation Unit in the north and the Boreal Plain (SK2) Caribou Conservation Unit in the south (Figure 1). The SK2 range is further divided into three caribou administrative units. The SK2 range plans identify three caribou habitat management area (CHMA) tiers:

- **Tier 1:** areas of high to moderate caribou habitat potential with high levels of observed caribou use and low levels of human-caused disturbance. Tier 1 areas are managed primarily to avoid habitat disturbance.
- **Tier 2:** areas of high to moderate caribou habitat potential with observed caribou use and higher levels of wildfire and human-caused disturbance than in Tier 1 areas. Tier 2 areas are managed to minimize habitat disturbance in coordination with industry and land users and to restore habitat.
- **Tier 3:** areas of general caribou habitat between Tier 1 and Tier 2 areas that provide general habitat and landscape connectivity. Tier 3 areas are managed to maintain connectivity across the landscape.

### 2.1 Data availability

Information to support project planning in relation to woodland caribou mitigation includes the following:

#### Caribou Habitat Management Areas:

- The spatial data layers of CHMAs in SK2 West, Central and East are available for download from [Saskatchewan GeoHub](#).
- These data can also be viewed on [HABISask](#) and are provided as part of the HABITools report function (users must be signed in to view this information).

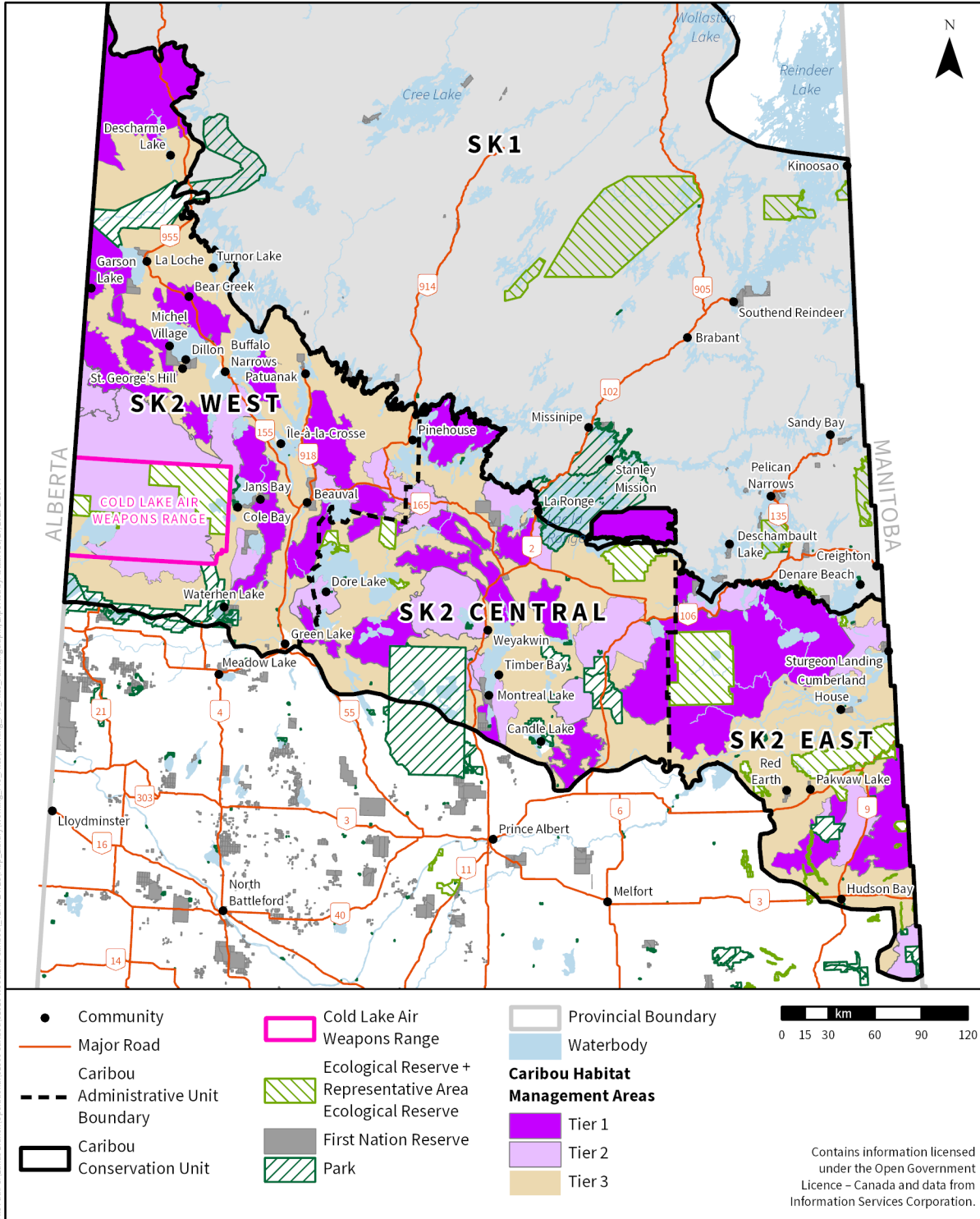


Figure 1. SK2 (Boreal Plain) Caribou Conservation Unit in Saskatchewan. SK2 is subdivided into three caribou administrative units (SK2 West, SK2 Central and SK2 East). Three tiers of caribou habitat management areas have been identified in the SK2 range plans.

#### **Woodland caribou habitat potential:**

- Woodland caribou habitat potential is defined by Boreal Plain and Boreal Shield ecosites<sup>2</sup>. Generally, high potential caribou habitat includes sandy jack pine/lichen and black spruce treed bog ecosites.
- The spatial data layer of woodland caribou habitat potential in the Boreal Plain (SK2) is available for download from [Saskatchewan GeoHub](#) and available for review on [HABISask](#).

#### **Woodland caribou documented occurrences:**

- Generalized woodland caribou occurrence information, compiled from surveys (including telemetry and fecal pellet collections) and incidental observations, is available as a spatial data layer package for download from [Saskatchewan GeoHub](#) and available for review on [HABISask](#).

### 3 Mitigation Planning Approach

These guidelines define **standard mitigation measures** that reflect the application of key management strategies described in the SK2 range plans, including avoidance, access management and restoration, to mineral exploration activities. The standard mitigation measures help proponents and regulators understand and meet the ministry's expectations for mitigation of potential impacts to woodland caribou in the planning and executing mineral exploration projects. Proposed projects that implement the standard mitigation measures will not be further reviewed by the ministry for caribou-related environmental concerns. The standard mitigation measures are provided in *Appendix A* and will be referenced as conditions of approval in project authorizations and/or permits.

If an alternative mitigation approach is preferred that can better achieve the intended outcome of the standard mitigation measures, or if a proponent prefers to not implement all standard mitigation measures for a proposed project in SK2, a **non-standard mitigation plan** shall be submitted as part of the permit application. A non-standard mitigation plan will describe how the standard mitigation measures were considered and identify alternative mitigation measures to achieve the desired result for woodland caribou and their habitat. Non-standard mitigation measures are only required for those components of the proposed project that do not implement the standard mitigation measures.

Non-standard mitigation plans will be reviewed by the Ecological Management Specialist (EMS) assigned to the project as part of the project review. Additional information and/or revisions to the non-standard mitigation plan may be requested by the ministry prior to approval. Commitments made in the finalized non-standard mitigation plan will be referenced as conditions of approval in the authorizations and/or permits issued by the ministry.

Proponents are encouraged to undertake engagement with potentially affected stakeholders and rights holders on all components of the project. The Government of Saskatchewan's [Proponent Handbook – Voluntary Engagement with First Nations and Métis Communities to Inform Government's Duty to Consult Process](#) provides additional guidance to proponents. Relevant information and documentation from early engagement and outreach efforts by the proponent will be considered to inform government's duty to consult process. This can serve to enhance the consultation process and project planning and can help control and manage project timelines with increased confidence.

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<sup>2</sup> McLaughlan, M.S., Wright, R.A., and Jiricka, R.D. 2010. Field guide to the ecosites of Saskatchewan's provincial forests. Saskatchewan Ministry of Environment, Forest Service. Prince Albert, SK. 343 pp. Available at: <https://publications.saskatchewan.ca/#/products/31663>

### 3.1 Habitat Assessments

Proponents may choose to undertake a site-level woodland caribou habitat assessment to support project planning and the development and implementation of a non-standard mitigation plan. A site-specific habitat assessment provides more detailed information on the potential risks to woodland caribou and caribou habitat by evaluating habitat conditions for the project or program area. Habitat assessments can be used to support the following:

- A demonstration of avoidance of the highest value caribou habitats in a non-standard mitigation plan; and
- The development of project-specific mitigation measures that consider site-specific habitat values to appropriately address the risks to woodland caribou and caribou habitat.

Guidelines for completing a habitat assessment are provided in *Appendix B*. The first step involves a desktop review of available data and imagery. As a second step, field data collection may be appropriate to refine the desktop assessment, especially when risks to woodland caribou and caribou habitat are higher.

The data collection and analysis completed as part of a habitat assessment may contribute to the environmental assessment process if a mine development is proposed. Conversely, if baseline ecosite mapping has recently (within the last seven years) been completed or updated in a project area for other purposes (e.g., a proposed mine development), it may be used as the basis for a habitat assessment, following the guidelines in *Appendix B*.

## 4 Standard Mitigation Measures for Mineral Exploration Projects in SK2

Standard mitigation measures for woodland caribou in SK2 for mineral exploration projects consider the following:

- In SK2, Tier 1 CHMAs represent the highest value habitat. Tier 2 CHMAs identify recovering habitat that in the future will become higher value habitat. A higher level of mitigation for woodland caribou and woodland caribou habitat is therefore needed in these areas relative to Tier 3 CHMAs.
- The risks to woodland caribou and woodland caribou habitat differ with the level of exploration activity; practical and effective mitigation approaches differ as well.
- In SK2, areas of high mineral exploration activity and interest overlap significantly with Tier 1 CHMAs; spatial avoidance alone is not a feasible mitigation. Avoidance of all activities during the sensitive timing window for woodland caribou (April 1 to July 31) may also be impractical for some exploration programs.
- Multiple sensory stressors in a geographic area will present a higher risk to woodland caribou than a single stressor.

The standard mitigation measures differ depending on the location of the proposed project. In Tier 1 and Tier 2 CHMAs, the standard mitigation measures for some project activities differ between areas of high exploration activity and areas of low exploration activity. In this way, the different risks to woodland caribou and their habitat associated with different levels of exploration activity are addressed, and the standard mitigation measures reflect what is practical for different levels of exploration activity. For some activities in Tier 1 and Tier 2 CHMAs, preferred and alternative options for standard mitigation provide additional flexibility to proponents while streamlining regulatory review.

*Appendix A* describes the standard mitigation measures for mineral exploration projects in SK2 based on CHMA Tier and whether the project occurs in a high or low exploration activity area. Additional operational

guidance that would further benefit woodland caribou and their habitat is also included for consideration in the development and execution of mineral exploration programs.

The standard mitigation measures presented in *Appendix A* differ between high and low exploration activity areas in Tier 1 and Tier 2 CHMAs for the following project activities: operating period, access and temporary work camps. Key differences in the standard mitigation measures proposed for these activities are described in section 4.2 below.

Figure 2 summarizes the process for determining whether a proposed project implements the standard mitigation measures, depending on the project location (high or low exploration activity area) in Tier 1 or Tier 2 CHMAs and the proposed activities.

Figure 3 summarizes the process for proposed projects in Tier 3.

NOTE: The tables in *Appendix A* provide the full details of the standard mitigation measures for project activities in Tier 1, Tier 2 and Tier 3 caribou habitat management areas.

#### **4.1 SK2 High Exploration Activity Areas**

High exploration activity areas in SK2 were delineated considering the following information:

- Publicly available drilling records managed by the Ministry of Energy and Resources.
- Public information posted by tenure holders.
- The Ministry of Environment's human footprint inventory (internal data source).
- Input from Ministry of Environment and Ministry of Energy and Resources staff.
- Input from SMEGAC members representing industry.

Two high exploration activity areas were identified in SK2 (Figure 4). The boundaries correspond to mineral claim boundaries for ease of application. Future revisions to the location and extent of high exploration activity areas in SK2 will be considered periodically (approximately every three years) through the SMEGAC caribou working group.

# Proposed Project in Tier 1 or Tier 2 CHMA

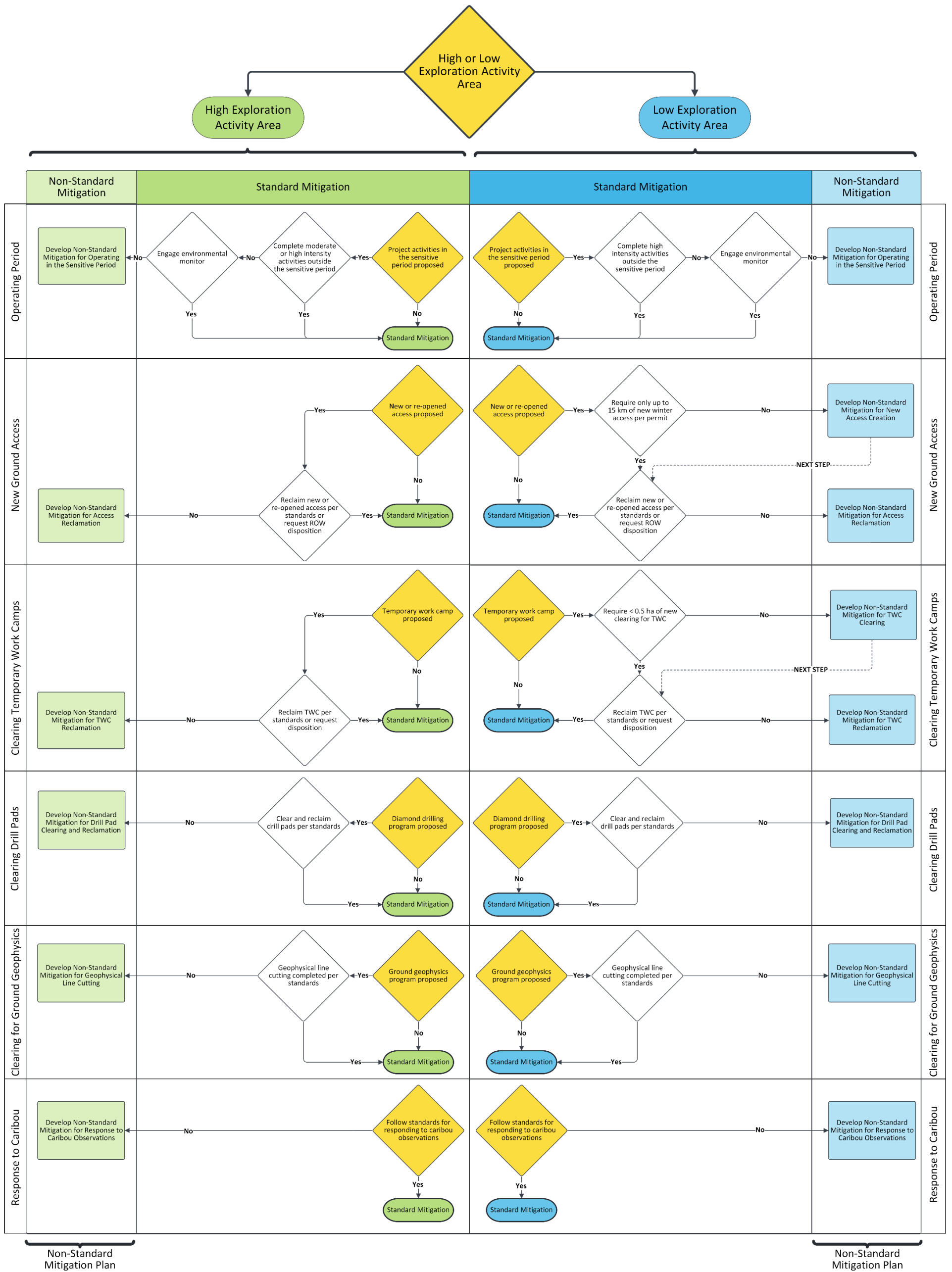


Figure 2. Flow chart depicting the process for determining whether a proposed project implements the standard mitigation measures, depending on the project location (high or low exploration activity area) in Tier 1 and Tier 2 CHMAs in the SK2 Caribou Conservation Unit and the proposed activities. Non-standard mitigation measures must be proposed for any project component that does not implement the standard mitigation measures.

# Proposed Project in Tier 3 CHMA

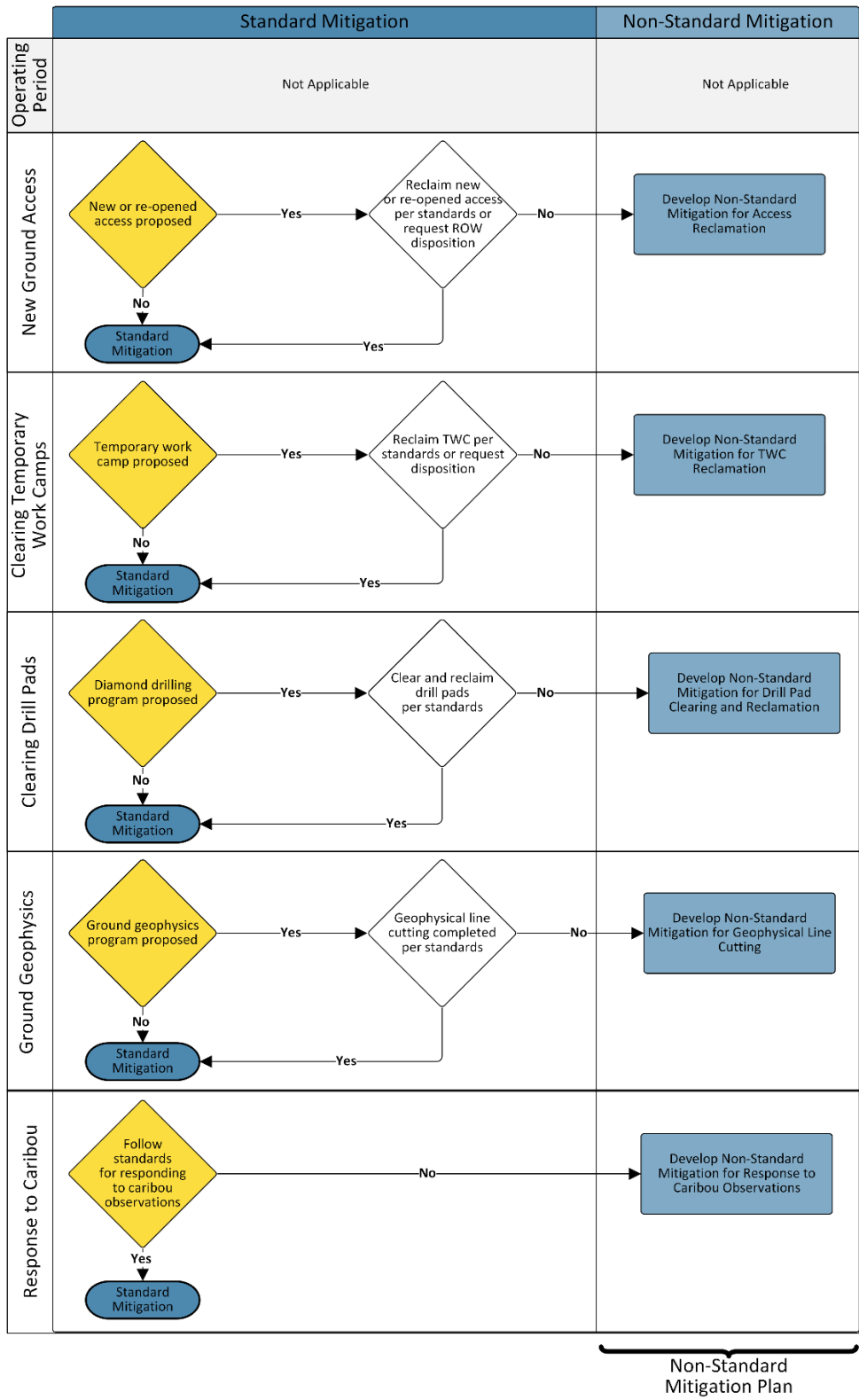


Figure 3. Flow chart depicting the process for determining whether a proposed project in a Tier 3 CHMA in the SK2 Caribou Conservation Unit implements the standard mitigation measures. Non-standard mitigation measures must be proposed for any project component that does not implement the standard mitigation measures.

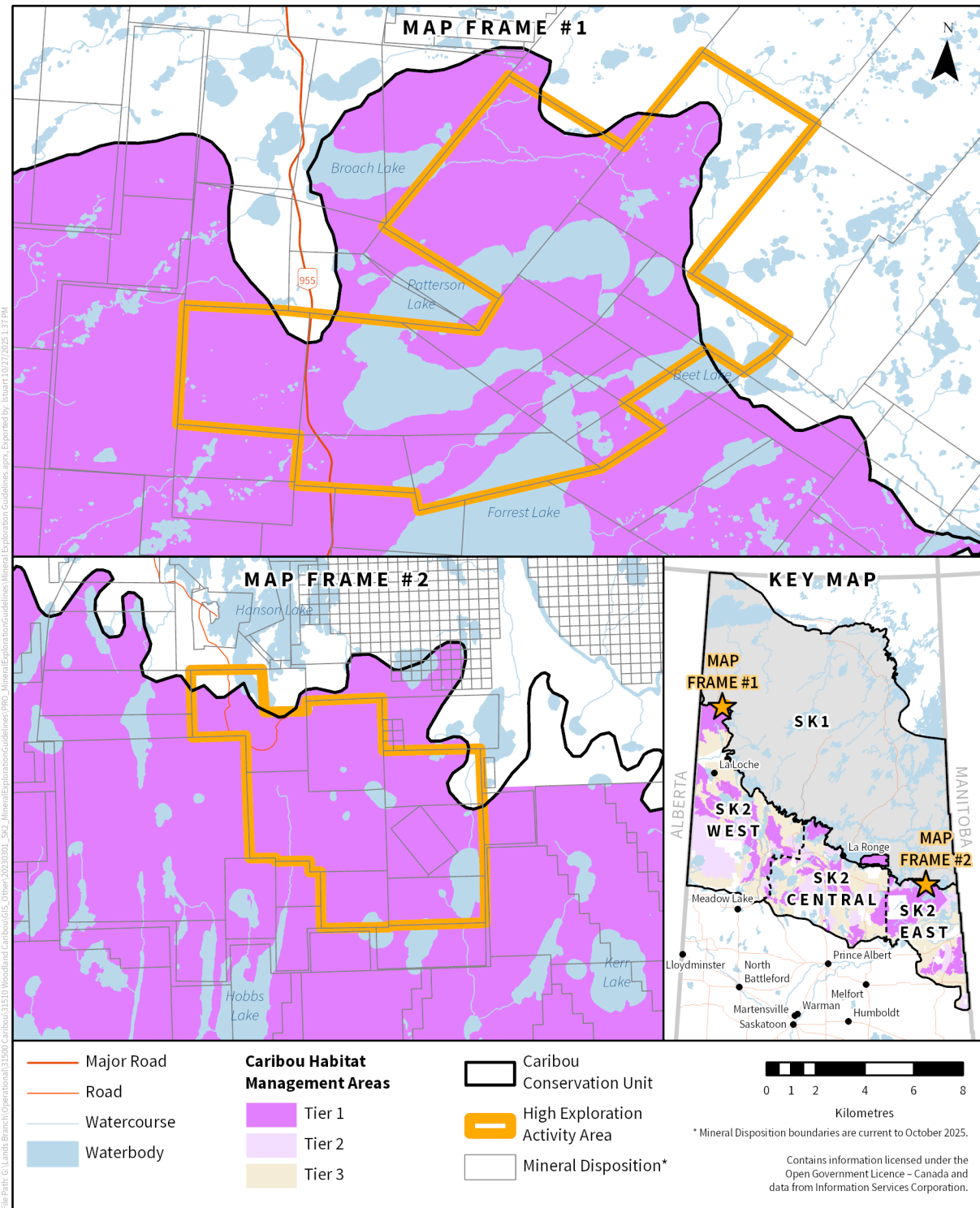


Figure 4. Areas of high mineral exploration activity in Tier 1 and 2 CHMAs in the SK2 Caribou Conservation Unit. Standard mitigation measures for some project components differ depending on whether the project is in an area of high or low exploration activity.

## 4.2 Standard Mitigation Measures for SK2 – High and Low Exploration Activity Areas

### 4.2.1 Operating Period

The sensitive timing window for woodland caribou in Saskatchewan is April 1 to July 31. During this period, female caribou and calves are most vulnerable to disruptions in movement patterns, habitat use and foraging that can alter predation risk and affect energetic balances and that may result in additional mortality. The objective of the standard mitigation measures is to avoid or minimize sensory disturbance to woodland caribou, especially pregnant or lactating cows and calves, during the sensitive timing window.

Project activities are categorized into high, medium, and low intensity, based on the anticipated level of sensory disturbance to woodland caribou<sup>3</sup>. The intensity of project activities is combined with the high and low exploration activity areas in a risk matrix (Table 2). In areas of high exploration activity, there is a higher likelihood that caribou will encounter multiple sensory disturbances, and therefore the consequence of sensory disturbance is greater in these areas. To mitigate the greater potential impact of sensory disturbance in high exploration activity areas, both medium and high intensity activities are categorized as higher risk in these areas.

Standard mitigation measures for the operating period in SK2 are as follows:

1. Avoid higher risk activities described in Table 2 during the sensitive timing window (**Preferred**); or
2. Conduct higher risk activities described in Table 2 during the sensitive timing window under the supervision and direction of an environmental monitor, as described in *Appendix C*.

Avoidance of higher risk activities during the sensitive timing window is preferred. However, the use of an environmental monitor is included as a standard mitigation option to provide flexibility for proponents. Additional details are provided in *Appendix A*.

### **Additional Information for Non-standard Mitigation Plans**

Preliminary field measurements of noise levels associated with diamond drilling in northern Saskatchewan indicate a return to ambient (background) levels between 250 m and 500 m from the drilling location, depending on terrain, forest type and weather conditions. This information may be used by proponents to inform the development of non-standard mitigation measures for sensory disturbance during the sensitive timing window.

### 4.2.2 Access

The objective of the standard mitigation measures for access in SK2 is to avoid or minimize habitat loss and alteration associated with the creation of new access. Minimizing new access and overall linear feature density is especially important in areas of low mineral exploration activity with minimal pre-existing disturbance.

In areas of low exploration activity, use of existing ground access combined with aircraft access is preferred. New access, to a maximum of 15 km per permit, may be created in winter in frozen conditions. If more than 15 km of new winter ground access is required for a single permit in a low exploration activity area, a non-standard mitigation plan is required. Re-opening previously reclaimed or

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<sup>3</sup> These categories were developed with reference to the Saskatchewan Activity Restriction Guidelines for Sensitive Species (2017) (<https://publications.saskatchewan.ca/#/products/79241>)

naturally regenerating access, provided vegetation growth on the line does not exceed 2 m in height, and the creation of ice roads are not considered new access. In both high and low exploration activity areas, the creation of new access must adhere to the standard mitigation measures for the operating period to be considered under a standard mitigation plan.

Table 2. Risk matrix for project activities occurring between April 1 and July 31 in areas of low and high mineral exploration activity in Tier 1 and Tier 2 CHMAs in SK2. Note: Activities described under each disturbance intensity category are not an exhaustive list.

Disturbance Intensity	Low Exploration Activity Area	High Exploration Activity Area
<p><b>Low</b>  <u>Examples:</u>                      -Temporary work camp establishment and operations (no mechanical clearing of vegetation)                      -ATVs, trucks, snowmobiles                      -hand clearing of drill pads, helipads, geophysical lines, etc.                      -prospecting (no mechanical clearing of vegetation)                      -ground geophysical programs (no mechanical clearing of vegetation)</p>	Lower Risk	Lower Risk
<p><b>Medium</b>  <u>Examples:</u>                      -heavy equipment operation (including skidders and dozers)                      - re-opening of previously reclaimed or naturally regenerating access using heavy equipment (provided vegetation re-growth is <math>\leq 2</math> m in height)                      -drilling</p>	Lower Risk	Higher Risk
<p><b>High</b>  <u>Examples:</u>                      -mechanical clearing of vegetation, including creation of new access trails and drill pads using a skidder or other mechanical means                      - mechanical trenching                      -stripping</p>	Higher Risk	Higher Risk

A right-of-way disposition will be required if new or re-opened access will not be reclaimed according to the standard mitigation measures in *Appendix A* prior to the expiry of the initial permit. An application for a right-of-way disposition should be submitted a minimum of six months in advance of permit expiry to allow for review. In cases where an access trail is reclaimed and re-opened repeatedly across multiple permits, a right-of-way disposition may be required as part of subsequent permit applications. Right-of-way disposition holders may be required to conduct additional reclamation activities.

The options for standard mitigation measures for access in Tier 1 and Tier 2 CHMAs in SK2 are summarized in Table 3. Additional details are provided in *Appendix A*.

Table 3. Standard mitigation measures for access in areas of high and low exploration activity in Tier 1 and Tier 2 CHMAs in SK2.

Low Activity Area	High Activity Area
Use existing or re-opened access, ice roads and/or aircraft to avoid the creation of new ground access. <b>(Preferred)</b> . Provisions for new access among helicopter-accessed drill pads are provided in <i>Appendix A</i> .*	No limit on the creation of new ground access.* Minimize new ground access by using existing access, re-opened access, ice roads and/or aircraft to the extent practical.
Create up to 15 km of new winter access under frozen conditions.*	
Reclamation of new and re-opened access must be completed by permit expiry unless an application for a right-of-way disposition is submitted and approved.	

\*Note that the creation of new access and re-opening previously reclaimed or naturally regenerating access must adhere to the standard mitigation measures for the operating period to be considered under a standard mitigation plan.

#### 4.2.3 Temporary Work Camps

The objective of the standard mitigation measures for temporary work camps is to minimize habitat loss and alteration, including through clearing and ground disturbance, especially in areas of low mineral exploration activity in SK2. In low exploration activity areas, new clearing for temporary work camps is limited to 0.5 ha, excluding what is required to meet core storage requirements or fire breaks. New clearing for core storage and fire breaks should be minimized to the extent practical, considering what is required for safety. In both high and low exploration activity areas, any mechanical vegetation clearing must also adhere to the standard mitigation measures for the operating period to be considered under a standard mitigation plan.

An industrial permit or lease is required to continue use of a temporary work camp beyond the expiry of the initial permit, unless the camp is completely demobilized (i.e., no structures remain) and reclaimed according to the standard mitigation measures in *Appendix B*. An application for an industrial permit or lease should be submitted a minimum of six months in advance of permit expiry to allow for review. To the extent feasible, re-use of temporary work camp sites is encouraged.

The standard mitigation measures for temporary work camps in SK2 are summarized in Table 4. Additional detail is provided in *Appendix A*.

Table 4. Standard mitigation measures for temporary work camps in areas of high and low exploration activity in Tier 1 and Tier 2 CHMAs in SK2.

Low Activity Area	High Activity Area
Limit new clearing for temporary work camps to 0.5 ha, excluding what is required for core storage or fire breaks.*	Minimize clearing for temporary work camps to the extent practical.*
Reclamation of temporary work camps must be completed by permit expiry. An application for an industrial permit or lease must be submitted and approved prior to permit expiry if a temporary work camp will not be completely demobilized and reclaimed.	

\*Note that all mechanical vegetation clearing must adhere to the standard mitigation for the operating period to be considered under a standard mitigation plan.

## 5 Non-Standard Mitigation Measures

If an alternative mitigation approach is preferred that can better achieve the intended outcome of the standard mitigation measures, or if a proponent prefers to not implement all standard mitigation measures for a proposed project in SK2, a **non-standard mitigation plan** shall be submitted as part of the project permit application. A non-standard mitigation plan must include a description of how the standard mitigation measures were considered, and the rationale for and description of the non-standard mitigation measures. Non-standard mitigation measures are only required for the components of a project that will not implement the standard mitigation measures.

Non-standard mitigation plans should consider the following:

- Reasonable and prudent measures that support the desired outcomes for woodland caribou and their habitat.
- Alignment with the mitigation intentions identified in the standard mitigation measures table (*Appendix A*).
- The mitigation hierarchy:
  - Avoid project impacts by changing the timing or location of project activities; then
  - Minimize project impacts by changing how activities are conducted; then
  - Restore project impacts to habitat (considered a type of impact minimization).
- Offsetting (compensating for project impacts elsewhere) is generally not considered suitable for mineral exploration programs and may only be considered in rare cases.
- Effort for planning and carrying out the plan should be proportional to the timing, scope, and scale of the proposed activities that fall outside the standard mitigation measures.

Acceptance of the mitigation measures proposed in a non-standard mitigation plan will be at the discretion of the EMS reviewing the project proposal.

An optional *Woodland Caribou Mitigation Plan Template for Mineral Exploration Programs in the Boreal Plain (SK2) Caribou Conservation Unit* is also available as a companion document. The template outlines the expected components of a non-standard mitigation plan and includes examples of possible non-standard mitigation measures. Proponents may choose to use the template, or they may clearly provide the required information elsewhere in the project proposal.

APPENDIX A – Standard Mitigation Measures for Mineral Exploration Programs  
in SK2

**Table A.1. Standard Mitigation Measures for Mineral Exploration Programs in the SK2 Caribou Conservation Unit: Tier 1 and Tier 2 Caribou Habitat Management Areas. (page 1 of 4)**

<b>Project Component</b>	<b>Standard Mitigation Measures: Tier 1 and Tier 2 Caribou Habitat Management Areas</b>														
<b>1. Operating Period</b>	<p><b>INTENT:</b> Avoid or minimize sensory disturbance to caribou, especially pregnant or lactating females with calves, during the sensitive timing window.</p> <p>a. The woodland caribou sensitive timing window is <b>April 1 to July 31</b>. Avoiding or minimizing all project activities to the extent practical during this period is preferred.</p> <p>b. Lower risk activities, as outlined in Table A.1.1, may proceed during the sensitive timing window.</p> <p>c. Higher risk activities will be conducted outside the sensitive timing window with two exceptions:</p> <p>i. Winter project demobilization activities initiated before April 1 may be completed in the sensitive timing window.</p> <p>ii. Higher risk activities may be conducted under the supervision and direction of an environmental monitor, whose qualifications and responsibilities are described in <i>Appendix C of the Mitigation Measures and Guidelines for Mineral Exploration Programs in the Boreal Plain (SK2) Caribou Conservation Unit</i>.</p> <p><b>Table A.1.1. Risk matrix of project activities of different disturbance intensities in areas of low and high mineral exploration activity in Tier 1 and Tier 2 CHMAs.*</b></p> <table border="1" data-bbox="308 574 2003 1284"> <thead> <tr> <th data-bbox="308 574 1598 656"><b>Disturbance Intensity</b></th> <th data-bbox="1598 574 1801 656"><b>Low Exploration Activity Area</b></th> <th data-bbox="1801 574 2003 656"><b>High Exploration Activity Area</b></th> </tr> </thead> <tbody> <tr> <td data-bbox="308 656 1598 899"> <p><b>Low</b> <u>Examples:</u> -Temporary work camp establishment and operations (no mechanical clearing of vegetation) -ATVs, trucks, snowmobiles -hand clearing of drill pads, helipads, geophysical lines, etc. -prospecting (no mechanical clearing of vegetation) -ground geophysical programs (no mechanical clearing of vegetation)</p> </td> <td data-bbox="1598 656 1801 899" style="background-color: #c6e0b4;">Lower Risk</td> <td data-bbox="1801 656 2003 899" style="background-color: #c6e0b4;">Lower Risk</td> </tr> <tr> <td data-bbox="308 899 1598 1105"> <p><b>Medium</b> <u>Examples:</u> -heavy equipment operation (including skidders) - re-opening of previously reclaimed or naturally regenerating access using heavy equipment (provided vegetation re-growth is ≤2 m in height) -drilling</p> </td> <td data-bbox="1598 899 1801 1105" style="background-color: #c6e0b4;">Lower Risk</td> <td data-bbox="1801 899 2003 1105" style="background-color: #fff2cc;">Higher Risk</td> </tr> <tr> <td data-bbox="308 1105 1598 1284"> <p><b>High</b> <u>Examples:</u> -mechanical vegetation clearing, including creation of new access trails and drill pads using a skidder or other mechanical means - mechanical trenching - stripping</p> </td> <td data-bbox="1598 1105 1801 1284" style="background-color: #fff2cc;">Higher Risk</td> <td data-bbox="1801 1105 2003 1284" style="background-color: #fff2cc;">Higher Risk</td> </tr> </tbody> </table> <p>*High exploration activity areas are defined in Figure 4 of the <i>Mitigation Measures and Guidelines for Mineral Exploration Programs in the Boreal Plain (SK2) Caribou Conservation Unit</i>.</p> <p><u>Additional guidance:</u></p> <ul style="list-style-type: none"> <li>• Avoid or minimize all project activities, including helicopter and other aircraft activity, during the sensitive timing window to the greatest extent possible.</li> <li>• Execute low-flying (&lt;300 m above ground level) airborne geophysical programs outside the sensitive timing window, where possible.</li> </ul>			<b>Disturbance Intensity</b>	<b>Low Exploration Activity Area</b>	<b>High Exploration Activity Area</b>	<p><b>Low</b> <u>Examples:</u> -Temporary work camp establishment and operations (no mechanical clearing of vegetation) -ATVs, trucks, snowmobiles -hand clearing of drill pads, helipads, geophysical lines, etc. -prospecting (no mechanical clearing of vegetation) -ground geophysical programs (no mechanical clearing of vegetation)</p>	Lower Risk	Lower Risk	<p><b>Medium</b> <u>Examples:</u> -heavy equipment operation (including skidders) - re-opening of previously reclaimed or naturally regenerating access using heavy equipment (provided vegetation re-growth is ≤2 m in height) -drilling</p>	Lower Risk	Higher Risk	<p><b>High</b> <u>Examples:</u> -mechanical vegetation clearing, including creation of new access trails and drill pads using a skidder or other mechanical means - mechanical trenching - stripping</p>	Higher Risk	Higher Risk
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**Table A.1. Standard Mitigation Measures for Mineral Exploration Programs in the SK2 Caribou Conservation Unit: Tier 1 and Tier 2 Caribou Habitat Management Areas. (page 2 of 4)**

<b>Project Component</b>	<b>Standard Mitigation Measures: Tier 1 and Tier 2 Caribou Habitat Management Areas</b>	
<b>2. Access</b>	<p><b>INTENT:</b> Avoid or minimize direct habitat loss and fragmentation and increasing linear feature density resulting from new ground access.</p> <p><b>INTENT:</b> Minimize direct habitat loss and alteration through reclamation of new disturbance.</p>	
	<p style="text-align: center;">High Activity Areas in Tier 1 and Tier 2 CHMAs</p> <p>a. Access can occur by existing or re-opened ground access, aircraft or new access (any season). Minimize new ground access by using existing access, re-opened access, ice roads and/or aircraft to the extent practical.</p> <p><i>Note: The creation of new access and re-opening previously reclaimed or naturally regenerating access must adhere to the standard mitigation measures for the operating period to be considered under a standard mitigation plan.</i></p>	<p style="text-align: center;">Low Activity Areas in Tier 1 and Tier 2 CHMAs</p> <p>a. Only existing or re-opened access, ice roads, and/or aircraft will be used to avoid the creation of new ground access, with the following exceptions:</p> <ul style="list-style-type: none"> <li>i. New access trails may be created among helicopter-accessed drill pads, provided the total length of trail does not exceed 3,000 m (per permit); and/or</li> <li>ii. Up to 15 km (per permit) of new winter access may be created under frozen conditions to minimize ground disturbance promote natural re-vegetation.</li> </ul> <p><i>Note: The creation of new access and re-opening previously reclaimed or naturally regenerating access must adhere to the standard mitigation measures for the operating period to be considered under a standard mitigation plan.</i></p>
	All Tier 1 and Tier 2 CHMAs	
	<p>b. New and re-opened ground access, including among drill pads, will be reclaimed prior to permit expiry by:</p> <ul style="list-style-type: none"> <li>i. Redistributing slash (including snow, where applicable) along the entire length of the new or re-opened access; and</li> <li>ii. Tree felling or hinging, where trees are sufficiently tall (&gt;2 m), along the first 100 m of the new or re-opened access from any intersection with unreclaimed access to deter wildlife and human access.</li> </ul> <p>c. If new or re-opened ground access will not be reclaimed prior to permit expiry, a right-of-way disposition will be required. Applications for right-of-way dispositions should be submitted six months in advance of permit expiry to allow for review and processing time.</p> <p><u>Additional guidance:</u></p> <ul style="list-style-type: none"> <li>• Minimize the total length of new access by using existing access or re-opening access first, then creating new access only if necessary.</li> <li>• Where possible, coordinate new access with other land users.</li> <li>• Where possible, construct new access to minimize lines of sight.</li> <li>• Where possible, construct and use winter-only access during frozen, snow covered (e.g., &gt;30 cm snowpack) conditions instead of all season access to minimize ground disturbance and damage to ground lichens where present.</li> <li>• Reclamation of new access is intended to minimize ongoing human access and wildlife movement to promote habitat regeneration and reduce predator efficiency. Careful attention to reclamation at intersections with existing access routes is important to achieving this outcome.</li> <li>• Planting appropriate tree species during reclamation of new access should be considered where feasible and appropriate for the ecological conditions to accelerate the return of vegetation cover to a pre-disturbance state.</li> </ul>	

**Table A.1. Standard Mitigation Measures for Mineral Exploration Programs in the SK2 Caribou Conservation Unit: Tier 1 and Tier 2 Caribou Habitat Management Areas. (page 3 of 4)**

Project Component	Standard Mitigation Measures: Tier 1 and Tier 2 Caribou Habitat Management Areas	
<b>3. Temporary Work Camps</b>	<b>INTENT:</b> Mitigate direct habitat loss and alteration by avoiding vegetation clearing or minimizing the size of cleared areas. <b>INTENT:</b> Minimize direct habitat loss and alteration through reclamation of new disturbance.	
	High Activity Areas in Tier 1 and Tier 2 CHMAs	Low Activity Areas in Tier 1 and Tier 2 CHMAs
	a. Avoid or minimize clearing for temporary work camps to the greatest extent practical.  <i>Note: All mechanical vegetation clearing for temporary work camps must adhere to the standard mitigation measures for the operating period to be considered under a standard mitigation plan.</i>	a. New clearing for temporary work camps will not exceed 0.5 ha, excluding clearing required for core storage or fire breaks.  <i>Note: All mechanical vegetation clearing for temporary work camps must adhere to the standard mitigation measures for the operating period to be considered under a standard mitigation plan.</i>
	All Tier 1 and Tier 2 CHMAs	
	b. All temporary work camp sites will be reclaimed prior to permit expiry by rolling back stockpiled soil and cleared snow (where applicable) and redistributing slash. d. An industrial disposition will be required if a temporary work camp will not be completely demobilized and reclaimed prior to permit expiry. Applications for industrial dispositions should be submitted six months in advance of permit expiry to allow for review and processing time.  <u>Additional guidance:</u> <ul style="list-style-type: none"> <li>• Locate new temporary work camps in existing locations or natural openings, where possible, to avoid new clearing or minimize the area cleared.</li> <li>• Minimize new clearing for core storage and fire breaks around temporary work camps to that required for safety.</li> <li>• Conduct mechanized clearing in winter on frozen, snow-covered ground (e.g., &gt;30 cm snowpack), where possible to minimize ground disturbance and damage to ground lichens where present.</li> <li>• Follow best practices to minimize wildlife attractants at temporary work camps (i.e., SMEGAC BMP 003 or equivalent) and comply with section 18.44 of <i>The Wildlife Regulations</i>.</li> </ul>	
<b>4. Clearing</b>	<b>INTENT:</b> Mitigate direct habitat loss and alteration by avoiding vegetation clearing or minimizing the size of cleared areas. <b>INTENT:</b> Minimize direct habitat loss and alteration through reclamation of new disturbance.  a. Clearing size for drill pads or helicopter pads will not exceed 900 m <sup>2</sup> , unless drill pads are designed to accommodate multiple drill rigs to minimize the total cleared area required. b. Any newly cleared drill pads will be reclaimed prior to permit expiry by rolling back all stripped soil and cleared snow (where applicable) and redistributing stockpiled slash over the opening. <i>Note: All mechanical vegetation clearing must adhere to the standard mitigation measures for the operating period to be considered under a standard mitigation plan.</i>  <u>Additional guidance:</u> <ul style="list-style-type: none"> <li>• Locate drill pads and helipads in existing locations or natural openings, where possible, to avoid new clearing or minimize the area cleared.</li> <li>• Locate drill pads and helipads outside of high potential woodland caribou habitat, where possible.</li> <li>• Conduct mechanized clearing in winter on frozen, snow-covered ground (e.g., &gt;30 cm snowpack), where possible, to minimize ground disturbance and damage to ground lichens where present.</li> <li>• Reclamation of helipads by redistributing stockpiled slash is encouraged to the extent possible, except where there are safety concerns.</li> </ul>	

**Table A.1. Standard Mitigation Measures for Mineral Exploration Programs in the SK2 Caribou Conservation Unit: Tier 1 and Tier 2 Caribou Habitat Management Areas. (page 4 of 4)**

Project Component	Standard Mitigation Measures: Tier 1 and Tier 2 Caribou Habitat Management Areas
<p><b>6. Geophysical Line Cutting</b></p>	<p><b>INTENT:</b> Avoid or minimize direct habitat loss, alteration and fragmentation and minimize lines of sight associated with linear features.</p> <p>a. Geophysical line cutting will meet all the following criteria:</p> <ol style="list-style-type: none"> <li>i. Lines will be cut with hand tools only;</li> <li>ii. Low impact cutting techniques will be employed (e.g., removing branches instead of cutting trees); and</li> <li>iii. Lines will be ≤ 1.5 m wide and slash lines will be ≤ 1 m wide.</li> </ol> <p><u>Additional guidance:</u></p> <ul style="list-style-type: none"> <li>• Maintain line of sight &lt; 200 m through meandering GPS line cutting or doglegs at intersections, unless in an open area where lines of sight naturally exceed 200 m. Doglegs refer to a bend in a line following an intersection to minimize the line of sight down the line from the intersection.</li> <li>• Use remotely piloted aircraft systems (RPAS/drones) where feasible for geophysical surveys, outside the sensitive timing window, where practical.</li> </ul>
<p><b>7. Response to Woodland Caribou Observations</b></p>	<p><b>INTENT:</b> Avoid or minimize sensory disturbance to caribou that are near active work areas.</p> <p><b>INTENT:</b> Contribute caribou observations to support ongoing adaptive management, planning and policy development.</p> <p>a. In active travel and work areas (i.e., excluding daily activity in temporary work camps), unless worker safety will be compromised:</p> <ol style="list-style-type: none"> <li>i. stationary or mobile motorized equipment will not start up if caribou are observed up to 500 m away; and</li> <li>ii. stationary and mobile motorized equipment will idle down if caribou are observed up to 500 m away; and</li> <li>iii. regular activities will proceed only when at least one of the following conditions is met: <ul style="list-style-type: none"> <li>• caribou are out of sight of the active travel or work area;</li> <li>• caribou are more than 500 m away from the active travel or work area; or</li> <li>• at least 30 minutes has elapsed.</li> </ul> </li> </ol> <p>b. Helicopters or other aircraft will not land within 500 m of an observed caribou, unless required for safety reasons.</p> <p>c. The Ministry of Environment Ecological Management Specialist will be notified if caribou or recent (i.e., since the last rain or snowfall) caribou sign (pellets, tracks, cratering) are observed in the project area. Additional mitigation measures may be recommended in higher risk situations (e.g., observations of cow-calf pairs, observations of congregations of caribou or repeated observations of caribou over a short time in the same area).</p> <p>d. All caribou observations will also be submitted to the Saskatchewan Conservation Data Centre Report a Woodland Caribou Sighting website (<a href="https://biodiversity.sk.ca/reportcaribou.htm">https://biodiversity.sk.ca/reportcaribou.htm</a>) or using the incidental species observation load form (<a href="http://biodiversity.sk.ca/Docs/SKCDCLoadform.xlsx">http://biodiversity.sk.ca/Docs/SKCDCLoadform.xlsx</a>).</p> <p><u>Additional guidance:</u></p> <ul style="list-style-type: none"> <li>• Where safe and practical, fixed wing and helicopter flights should maintain an altitude of at least 300 m above ground level when flying above caribou.</li> <li>• In higher risk situations (e.g., observations of cow-calf pairs, observations of congregations of caribou), idle down periods longer than 30 minutes should be observed where safe and practical to allow caribou additional time to move away from project activities.</li> </ul>

**Table A.2. Standard Mitigation Measures for Mineral Exploration Programs in the SK2 Caribou Conservation Unit: Tier 3 Caribou Habitat Management Areas (page 1 of 3)**

Project Component	Standard Mitigation Measures: Tier 3 Caribou Habitat Management Areas
<p><b>1. Access</b></p>	<p><b>INTENT:</b> Avoid or minimize direct habitat loss and fragmentation and increasing linear feature density resulting from new ground access.  <b>INTENT:</b> Minimize direct habitat loss and alteration through reclamation of new disturbance.</p> <p>a. Access can occur by existing or re-opened ground access, aircraft or new access (any season). Minimize new ground access by using existing access, re-opened access, ice roads and/or aircraft to the extent practical.</p> <p>b. New and re-opened ground access, including among drill pads, will be reclaimed prior to permit expiry by redistributing slash (including snow, where applicable) along the entire length of the new or re-opened access.</p> <p>c. If new or re-opened ground access will not be reclaimed prior to permit expiry, a right-of-way disposition will be required. Applications for right-of-way dispositions should be submitted six months in advance of permit expiry to allow for review and processing time.</p> <p><u>Additional guidance:</u></p> <ul style="list-style-type: none"> <li>• Minimize the total length of new access by using existing access or re-opening access first, then creating new access only if necessary.</li> <li>• Where possible, coordinate new access with other land users.</li> <li>• Where possible, construct new access to minimize lines of sight.</li> <li>• Where possible, construct and use winter-only access during frozen, snow covered (e.g., &gt;30 cm snowpack) conditions instead of all season access to minimize ground disturbance and damage to ground lichens where present.</li> <li>• Reclamation of new access is intended to minimize ongoing human access and wildlife movement to promote habitat regeneration and reduce predator efficiency. Careful attention to reclamation at intersections with existing access routes is important to achieving this outcome.</li> <li>• Planting appropriate tree species during reclamation of new access should be considered where feasible and appropriate for the ecological conditions to accelerate the return of vegetation cover to a pre-disturbance state.</li> </ul>
<p><b>2. Temporary Work Camps</b></p>	<p><b>INTENT:</b> Mitigate direct habitat loss and alteration by avoiding vegetation clearing or minimizing the size of cleared areas.  <b>INTENT:</b> Minimize direct habitat loss and alteration through reclamation of new disturbance.</p> <p>a. Avoid or minimize clearing for temporary work camps to the greatest extent practical.</p> <p>b. All temporary work camp sites will be reclaimed prior to permit expiry by rolling back stockpiled soil and cleared snow (where applicable) and redistributing slash.</p> <p>c. An industrial disposition will be required if a temporary work camp will not be completely demobilized and reclaimed prior to permit expiry.</p> <p><u>Additional guidance:</u></p> <ul style="list-style-type: none"> <li>• Locate new temporary work camps in existing locations or natural openings, where possible, to avoid new clearing or minimize the area cleared.</li> <li>• Minimize new clearing for core storage and fire breaks around temporary work camps to that required for safety.</li> <li>• Conduct mechanized clearing in winter on frozen, snow-covered ground (e.g., &gt;30 cm snowpack), where possible to minimize ground disturbance and damage to ground lichens where present.</li> <li>• Follow best practices to minimize wildlife attractants at temporary work camps (i.e., SMEGAC BMP 003 or equivalent) and comply with Section 18.44 of <i>The Wildlife Regulations</i>.</li> </ul>

**Table A.2. Standard Mitigation Measures for Mineral Exploration Programs in the SK2 Caribou Conservation Unit: Tier 3 Caribou Habitat Management Areas (page 2 of 3)**

Project Component	Standard Mitigation Measures: Tier 3 Caribou Habitat Management Areas
<p><b>3. Clearing</b></p>	<p><b>INTENT:</b> Mitigate direct habitat loss and alteration by avoiding vegetation clearing or minimizing the size of cleared areas.  <b>INTENT:</b> Minimize direct habitat loss and alteration through reclamation of new disturbance.</p> <p>a. Clearing size for drill pads or helipads will not exceed 900 m<sup>2</sup>, unless drill pads are designed to accommodate multiple drill rigs to minimize the total cleared area required.  b. Any newly cleared drill pads will be reclaimed prior to permit expiry by rolling back all stripped soil and cleared snow (where applicable) and redistributing stockpiled slash over the opening.</p> <p><u>Additional guidance:</u></p> <ul style="list-style-type: none"> <li>• Locate drill pads and helipads in existing locations or natural openings, where possible, to minimize area cleared.</li> <li>• Locate drill pads and helipads outside of high potential woodland caribou habitat, where possible.</li> <li>• Conduct mechanized clearing in winter on frozen, snow-covered ground (e.g., &gt; 30 cm snowpack), where possible.</li> <li>• Reclamation of helipads by redistributing stockpiled slash is encouraged to the extent possible, except where there are safety concerns.</li> </ul>
<p><b>4. Geophysical Line Cutting</b></p>	<p><b>INTENT:</b> Avoid or minimize direct habitat loss and alteration and minimize lines of sight associated with linear features.</p> <p>a. Geophysical line cutting will meet all the following criteria:</p> <ol style="list-style-type: none"> <li>i. Lines will be cut with hand tools only;</li> <li>ii. Low impact cutting techniques will be employed (e.g., removing branches instead of cutting trees); and</li> <li>iii. Lines will be ≤ 1.5 m wide and slash lines will be ≤ 1 m wide.</li> </ol> <p><u>Additional guidance:</u></p> <ul style="list-style-type: none"> <li>• Maintain line of sight &lt; 200 m through meandering GPS line cutting or doglegs at intersections, unless in an open area where lines of sight naturally exceed 200 m. Doglegs refer to a bend in a line following an intersection to minimize the line of sight down the line from the intersection.</li> </ul>

**Table A.2. Standard Mitigation Measures for Mineral Exploration Programs in the SK2 Caribou Conservation Unit: Tier 3 Caribou Habitat Management Areas (page 3 of 3)**

<p>5. <b>Response to Woodland Caribou Observations</b></p>	<p><b>INTENT:</b> Avoid or minimize sensory disturbance to caribou that are near active work areas.</p> <p><b>INTENT:</b> Contribute caribou observations to support ongoing adaptive management, planning and policy development.</p> <p>a. In active travel and work areas (i.e., excluding daily activity in temporary work camps), unless worker safety will be compromised:</p> <ol style="list-style-type: none"> <li>i. stationary or mobile motorized equipment will not start up if a caribou is observed up to 500 m away; and</li> <li>ii. stationary and mobile motorized equipment will idle down if caribou are observed up to 500 m away; and</li> <li>iii. regular activities will proceed only when at least one of the following conditions is met: <ul style="list-style-type: none"> <li>• caribou are out of sight of the active travel or work area;</li> <li>• caribou are more than 500 m away from the active travel or work area; or</li> <li>• at least 30 minutes has elapsed.</li> </ul> </li> </ol> <p>b. Helicopters or other aircraft will not land within 500 m of an observed caribou, unless required for safety reasons.</p> <p>c. The Ministry of Environment Ecological Management Specialist will be notified if caribou or recent (i.e., since the last rain or snowfall) caribou sign (pellets, tracks, cratering) are observed in the project area. Additional mitigation measures may be recommended in higher risk situations (e.g., observations of cow-calf pairs, observations of congregations of caribou or repeated observations of caribou over a short time in the same area).</p> <p>d. All caribou observations will also be submitted to the Saskatchewan Conservation Data Centre Report a Woodland Caribou Sighting website application tool (<a href="https://biodiversity.sk.ca/reportcaribou.htm">https://biodiversity.sk.ca/reportcaribou.htm</a>) or using the incidental species observation load form (<a href="http://biodiversity.sk.ca/Docs/SKCDCLoadform.xlsx">http://biodiversity.sk.ca/Docs/SKCDCLoadform.xlsx</a>).</p> <p><u>Additional guidance:</u></p> <ul style="list-style-type: none"> <li>• Where safe and practical, fixed wing and helicopter flights should maintain an altitude of at least 300 m above ground level when flying above caribou.</li> <li>• In higher risk situations (e.g., observations of cow-calf pairs, observations of congregations of caribou), idle down periods longer than 30 minutes should be observed where safe and practical to allow caribou additional time to move away from project activities.</li> </ul>
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## APPENDIX B – Woodland Caribou Habitat Assessment Guidelines for Mineral Exploration Programs in the Boreal Plain (SK2) Caribou Conservation Unit

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## 1 Overview

Site-specific woodland caribou habitat assessments can be used to inform mineral exploration project planning and execution to mitigate risks to woodland caribou and their habitat. Habitat assessments may be integrated into a non-standard woodland caribou mitigation plan or completed as part of best practice to manage environmental risks. These guidelines outline the Ministry of Environment's expectations for woodland caribou habitat assessments for mineral exploration projects proposed for the SK2 (Boreal Plain) Caribou Conservation Unit. These guidelines may be updated as new information becomes available.

These guidelines take a risk-based approach to woodland caribou habitat assessment. Desktop screening following these guidelines relies on available spatial data and predefined criteria to identify areas where the risks to woodland caribou and caribou habitat are higher from proposed project activities. If specified project activities cannot be avoided in areas identified as having higher risk, further field assessment is recommended.

Field assessments are intended to verify or update woodland caribou habitat mapping completed during desktop screening. These assessments can also serve to integrate other factors that influence habitat value for woodland caribou into the risk assessment criteria. The results of field assessments can be used to refine risk mapping and inform project planning and appropriate mitigation measures (Figure B.1). Field assessments may be completed in advance of submitting a mineral exploration project proposal to the ministry (pre-permit field assessments) or as part of a commitment in the mineral exploration project proposal (post-permit field assessments). Either type of field assessment could be integrated into a non-standard mitigation plan, as outlined in Figure B.1. The information collected and reported from a field assessment will generally be considered valid for up to seven years by the ministry, unless significant new habitat disturbance occurs in the assessed area (wildfire or human disturbance).

All habitat assessments, including desktop screenings, submitted to the ministry will be reviewed as part of the normal review of a project proposal.

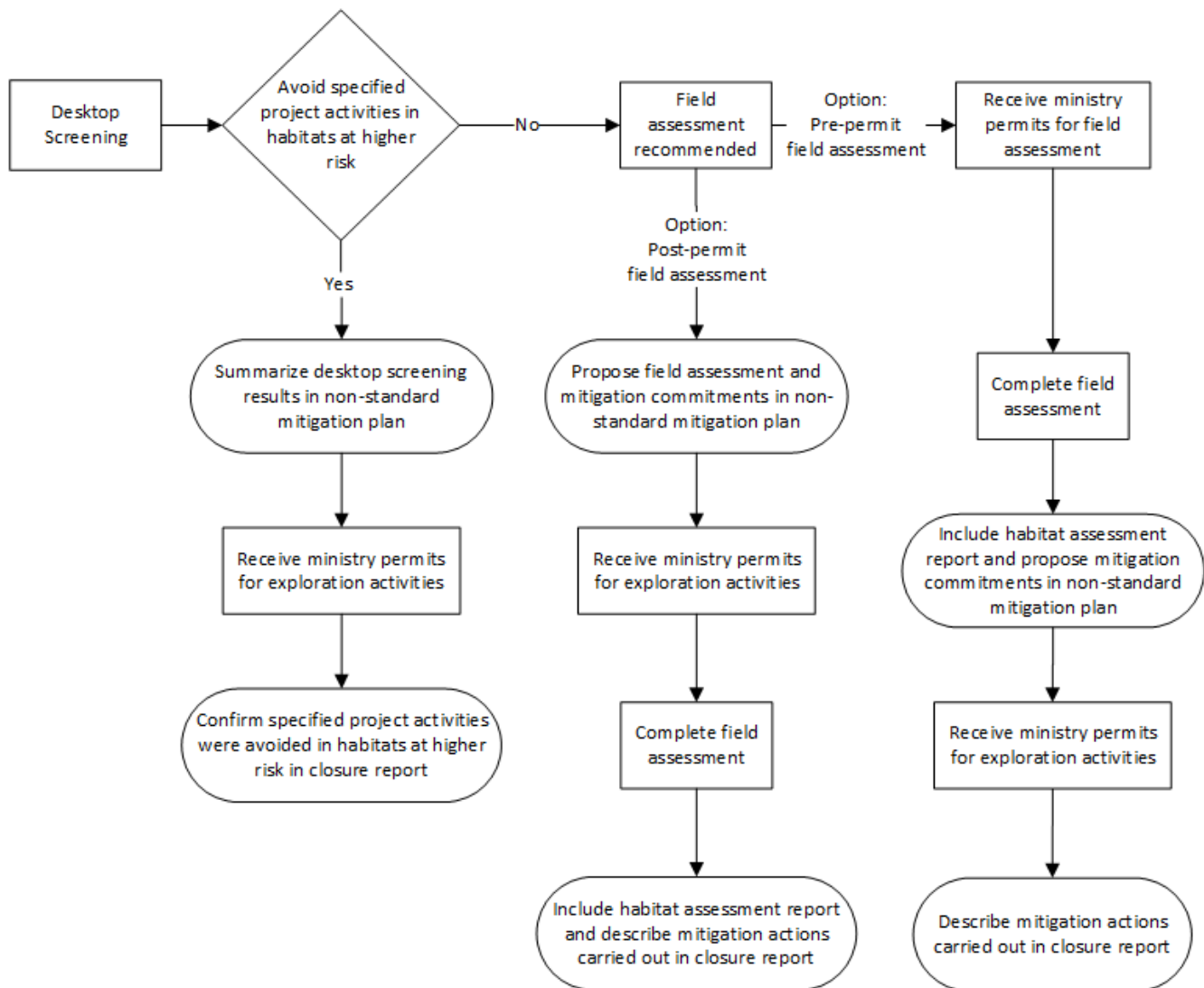


Figure B.1. Process for integrating habitat assessments into non-standard woodland caribou mitigation plans for mineral exploration projects.

## 2 Habitat Assessment Components

Habitat assessments for woodland caribou should integrate multiple criteria to evaluate the potential impacts of mineral exploration on both the species and its habitat. Key factors include woodland caribou habitat suitability, forest age and wildfire history, levels of human disturbance, and the broader landscape context. Assessments should also consider both historical and recent records of woodland caribou presence in and around the project area.

The desktop screening, further described in section 3, relies on a simplified set of criteria that are based on available spatial data: habitat potential for calving and foraging, and wildfire history and forest age. Additional factors influencing habitat value for woodland caribou can be integrated into field assessments and the resulting risk assessments.

## 2.1 Woodland Caribou Habitat Potential

Saskatchewan's forested ecosites have been evaluated for habitat potential for woodland caribou with the assistance of woodland caribou experts with experience in Saskatchewan ecosystems. Ecosites in the boreal plain and boreal shield were classified based on their potential to provide forage, refuge or calving habitats regardless of current condition (Table B.1 and Table B.2). Additional details on the ecosite rankings are available in *Appendix C of the SK2 Central Range Plan for Woodland Caribou in Saskatchewan* (Saskatchewan Ministry of Environment, 2019). The high habitat potential classes in the boreal plain and boreal shield include open jack pine forest with very high lichen cover and black spruce treed bogs. Most wetland types, as well as other jack pine-dominated and black spruce-dominated forests, provide moderate quality habitat. The SK2 Caribou Conservation Unit is predominantly comprised of Boreal Plain ecosites, but Boreal Shield ecosites occur along the northern boundary in some areas.

These guidelines emphasize avoidance of ecosites categorized as having high potential for calving and foraging to maintain these important woodland caribou habitats. They also aim to minimize sensory disturbance in these areas during the sensitive late-winter, calving, and post-calving periods (April 1 to July 31).

## 2.2 Wildfire and Stand Age

Forest stand age is an important modifier of woodland caribou habitat potential, whether the driving factor is wildfire or another forest disturbance. Typically, early seral stage forests are avoided by woodland caribou, likely driven by reduced lichen forage availability and increased predation risk associated with those habitats (Finnegan et al., 2021). However, caribou may still occur in areas recently disturbed by wildfire until fallen trees impede travel.

High value woodland caribou habitat in Saskatchewan includes both high and moderate potential woodland caribou habitat that is at least 50 years old. The value of high and moderate potential habitat for woodland caribou increases as forest age increases, with the highest value habitats being 80 to 120 years old. Other factors, such as understory stand density and composition, stand break up, and lichen recovery following wildfire can also influence the relative habitat value of forest stands of different ages, depending on the ecosite and ecoregion (Skatter et al. 2014).

The habitat value of previously burned areas for woodland caribou, especially for calving, is an active area of research. Woodland caribou in the Boreal Shield of Saskatchewan respond to recent burns by reducing use of burned areas in summer, autumn and winter, but not during the calving season (Silva et al. 2020). Additional research in the Boreal Shield has provided evidence for female preference for bog and fen habitats as calving habitat within wildfire boundaries (Skatter et al. 2017). Conversely, in the Boreal Plain in Alberta, woodland caribou avoided burned portions of their home ranges, including the residual patches, regardless of season, and this avoidance persisted for up to 30 years after burning (Konkolics et al. 2021). The ministry may revise the definition of high value woodland caribou habitat as understanding of caribou response to wildfire evolves.

Table B.1. Woodland caribou habitat potential of Boreal Plain ecozone ecosites (McLaughlan et al., 2010).

Boreal Plain Ecosite	Forage	Refuge	Calving	Overall Habitat Suitability	Foraging Habitat Potential <sup>1</sup>	Calving Habitat Potential <sup>2</sup>	Overall Habitat Potential <sup>3</sup>		
BP1 - June grass - mountain goldenrod grassland: Moderately fresh loamy sand	1	N/A	N/A	0	LOW	LOW	LOW		
BP5 - Trembling aspen / prickly rose / grass: Fresh sand	1	1	1	3					
BP6 - Trembling aspen / beaked hazel / sarsaparilla: Fresh loamy sand	1	1	1	3					
BP7 - Trembling aspen - white birch / sarsaparilla: Fresh loamy sand	1	1	1	3					
BP8 - Trembling aspen - white birch / mountain maple: Fresh sandy clay loam	1	1	1	3					
BP9 - White spruce - trembling aspen / feathermoss: Fresh sand	1	1	1	3					
BP10 - Trembling Aspen - white spruce / feathermoss: Fresh silty loam	1	1	1	3					
BP11 - White birch - white spruce - balsam fir: Fresh sandy clay loam	1	1	1	3					
BP13 - White spruce - balsam fir / feathermoss: Fresh sandy clay loam	1	1	1	3					
BP15 - Balsam poplar - white spruce / feathermoss: Very moist silty loam	1	1	1	3					
BP16 - Balsam poplar - trembling aspen / prickly rose: Fresh clay loam	1	1	1	3					
BP17 - Manitoba maple - balsam poplar / ostrich fern: Moist silty clay loam	1	1	1	3					
BP3 - Jack pine / feathermoss: Moderately fresh loamy sand	1	3	1	5					
BP4 - Jack pine - trembling aspen / feathermoss: Moderately fresh sand	1	3	1	5					
BP12 - Jack pine - spruce / feathermoss: Fresh loamy sand	1	3	1	5					
BP14 - Black spruce / Labrador tea / feathermoss: Very moist sandy clay loam	1	3	2	6					
BP18 - Black spruce - tamarack treed swamp: Wet humic organic	1	2	2	5				HIGH	MODERATE
BP20 - Labrador tea shrubby bog: Wet fibric organic	2	3	1	6				HIGH	
BP21 - Graminoid bog: Wet fibric organic	1	2	1	4				LOW	
BP22 - Open bog: Wet humic organic	1	3	1	5	HIGH				
BP23 - Tamarack treed fen: Wet fibric organic	2	2	1	5	LOW				
BP24 - Leatherleaf shrubby poor fen: Wet fibric organic	1	2	1	4					
BP25 - Willow shrubby rich fen: Wet humic organic	1	2	1	4					
BP26 - Graminoid fen: Wet humic organic	1	2	1	4					
BP27 - Open fen: Wet fibric organic	1	3	1	5					
BP28 - Seaside arrow-grass marsh: Very moist humic organic	1	2	1	4					
BP2 - Jack pine / lichen: Moderately fresh sand	3	3	1	7		HIGH			
BP19 - Black spruce treed bog: Moderately wet fibric organic	2	3	3	8	HIGH				

<sup>1</sup>Foraging habitat potential reflects the capability of the ecosite to provide forage (e.g., lichen and other palatable vegetation). High potential foraging habitat comprises ecosites that were ranked in the top two categories (a score of 2 or 3) for foraging.

<sup>2</sup>Calving habitat potential reflects the capability of the ecosite to provide calving habitat, considering both safety from predation and forage availability. High potential calving habitat comprises ecosites that were ranked in the top two categories (a score of 2 or 3) for calving.

<sup>3</sup>Overall habitat potential is based on the overall habitat suitability score, which is the sum of scores for foraging, refuge and calving potential. High habitat potential ecosites are those with an overall habitat suitability score of 7 or 8.

Table B.2. Woodland caribou habitat potential of Boreal Shield ecozone ecosites (McLaughlan et al., 2010).

Boreal Shield Ecosite	Forage	Refuge	Calving	Overall Habitat Suitability	Foraging Habitat Potential <sup>1</sup>	Calving Habitat Potential <sup>2</sup>	Overall Habitat Potential <sup>3</sup>						
BS15 - Trembling aspen – white birch / green alder: Moderately fresh loamy sand	1	1	1	3	LOW	LOW	LOW						
BS16 - Black spruce / balsam poplar swamp / river alder swamp: Very moist mesic organic	1	1	1	3									
BS1 - Sand heather – floccose tansy sand dune: Moderately fresh sand	1	3	1	5	HIGH		LOW	MODERATE					
BS6 - Jack pine – trembling aspen / green alder: Moderately fresh loamy sand	2	2	1	5									
BS8 - Black spruce – white birch / lichen: Moderately dry sandy loam	2	3	1	6									
BS9 - Black spruce – jack pine / feathermoss: Moderately fresh sandy loam	2	3	1	6									
BS10 - Black spruce – white birch / feathermoss: Fresh sand	2	3	1	6									
BS11 - White spruce – balsam fir / feathermoss: Fresh sandy loam	2	3	1	6	LOW				LOW	MODERATE			
BS13 - White birch – black spruce – trembling aspen: Moderately fresh sand	1	2	1	4									
BS14 - White birch / lingonberry – Labrador tea: Moderately dry sand	1	2	1	4	HIGH						LOW	MODERATE	
BS18 - Labrador tea shrubby bog: Moderately wet mesic organic	2	3	1	6									
BS19 - Graminoid bog: Very wet humic organic	1	3	1	5	LOW								LOW
BS20 - Open bog: Moderately wet fibric organic	1	3	1	5									
BS21 - Tamarack treed fen: Wet fibric organic	2	2	2	6	HIGH	HIGH							
BS22 - Leatherleaf shrubby poor fen: Very wet fibric organic	1	2	1	4	LOW	LOW							
BS23 - Willow shrubby rich fen: Wet fibric organic	1	2	1	4									
BS24 - Graminoid fen: Very wet humic organic	1	3	1	5									
BS25 - Open fen: Wet mesic organic	1	3	1	5									
BS26 - Rush sandy shore: Very moist sand	1	3	1	5									
BS27 - Sedge rocky shore: Very moist sand	1	3	1	5									
BS2 - Lichen / felsenmeer – bedrock: Dry nonsoil	3	3	1	7			HIGH	LOW	HIGH				
BS3 - Jack pine / blueberry / lichen: Moderately fresh sand	3	3	1	7									
BS4 - Jack pine – black spruce / feathermoss: Moderately dry sand	2	3	2	7									
BS5 - Jack pine – white birch / feathermoss: Moderately dry sand	2	3	2	7									
BS7 - Black spruce / blueberry / lichen: Moderately dry sand	3	3	2	8									
BS12 - White spruce / crowberry / feathermoss: Moderately fresh sand	3	3	1	7									
BS17 - Black spruce treed bog: Very moist mesic organic	3	3	3	9	HIGH	HIGH							

<sup>1</sup>Foraging habitat potential reflects the capability of the ecosite to provide forage (e.g., lichen and other palatable vegetation). High potential foraging habitat comprises ecosites that were ranked in the top two categories (a score of 2 or 3) for foraging.

<sup>2</sup>Calving habitat potential reflects the capability of the ecosite to provide calving habitat, considering both safety from predation and forage availability. High potential calving habitat comprises ecosites that were ranked in the top two categories (a score of 2 or 3) for calving.

<sup>3</sup>Overall habitat potential is based on the overall habitat suitability score, which is the sum of scores for foraging, refuge and calving potential. High habitat potential ecosites are those with an overall habitat suitability score of 7, 8 or 9.

### 2.3 Landscape Context

At a landscape scale, high and moderate quality habitat types need to remain in large, connected patches throughout the landscape to support use and predator avoidance by naturally low-density woodland caribou. Local habitat values should also be considered in the context of the surrounding landscape for site specific habitat assessments. For example, landscape features that provide isolation from predators are important during the calving and post-calving periods, regardless of their ecosite classification. These features may include unburned areas within wildfire perimeters or peninsulas and islands in lakes, rivers or treed peatlands (Saskatchewan Ministry of Environment 2013). In heavily burned landscapes, unburned or low burn severity areas where forage (e.g. lichen) and refuge attributes were maintained also provide important opportunities for calving and foraging (Skatter et al. 2017).

### 2.4 Human Disturbance

Human disturbance causes both loss and alteration of woodland caribou habitat. However, woodland caribou are frequently observed in proximity to human disturbance, especially in appropriate habitats and when sensory disturbance levels are relatively low. These guidelines consider areas with existing human disturbance at a lower risk for new access creation and vegetation clearing activities. However, existing human disturbance may fall into a higher risk category for activities causing sensory disturbance, depending on proximity to habitats at higher risk.

### 2.5 Woodland Caribou Use

If proponents frequently observe woodland caribou or signs of their presence within the project area, or possess historical knowledge of regular woodland caribou activity, these observations should be incorporated into project planning and implementation to help minimize potential impacts on woodland caribou and their habitat.

Generalized woodland caribou occurrence data, compiled from surveys (including telemetry and fecal pellet collections) and incidental observations, is available as a spatial data layer package on [Saskatchewan GeoHub](#). This information provides landscape context on woodland caribou occurrence but is not detailed enough to guide site-specific planning. Importantly, the absence of caribou observations in this data set does not indicate that caribou do not occur in an area.

## 3 Desktop Screening

Desktop screening relies on the habitat assessment components for which spatial data are available:

- Foraging and calving habitat potential; and
- Wildfire history and forest age.

These components are used to identify woodland caribou habitats at higher risk that should be avoided during the sensitive timing window or for new clearings or access creation.

For projects undertaking a habitat assessment to inform a non-standard mitigation plan, desktop screening should be the first step in the habitat assessment (Figure B.2).

### 3.1 Spatial Scope and Scale

At a minimum, desktop screening should be completed for proposed project activities within the scope of a non-standard mitigation plan plus a minimum 500 m buffer to ensure directly adjacent habitat and its value is understood. Desktop screening for a larger area that includes all proposed activities (e.g. an entire subsurface disposition) is recommended to provide options for project planning.

### 3.2 Personnel Requirements

Personnel completing desktop screening should have the following general competencies:

1. Familiarity with the classification and mapping of forested ecosites in Saskatchewan.
2. General knowledge of woodland caribou life history, biology and behaviour.
3. Ability to analyze, interpret and map geospatial data and imagery to identify habitats at higher risk from the planned project activities.

Personnel requirements for desktop screening may be met through internal staffing resources or by procuring services from a third party (e.g. a reputable environmental consulting firm).

### 3.3 Information Requirements

The data sets listed in Table should be reviewed as part of the desktop screening to assess and map woodland caribou habitat value.

Table B.3. Recommended data sets for desktop screening for woodland caribou habitat values.

Data Set	Availability
Woodland caribou habitat potential for SK2 Note: this data set includes: <ul style="list-style-type: none"> <li>○ Overall habitat potential</li> <li>○ Calving habitat potential</li> <li>○ Foraging habitat potential</li> </ul>	HABISask ( <a href="http://www.biodiversity.sk.ca">www.biodiversity.sk.ca</a> ) Saskatchewan GeoHub ( <a href="https://environment-saskatchewan.hub.arcgis.com/pages/species-at-risk">https://environment-saskatchewan.hub.arcgis.com/pages/species-at-risk</a> )
National Burned Area Composite (Natural Resources Canada) Note: the wildfire mapping in the National Burned Area Composite data set omits unburned areas within wildfire perimeters.	Canadian Wildland Fire Information System Datamart ( <a href="https://cwfis.cfs.nrcan.gc.ca/datamart">https://cwfis.cfs.nrcan.gc.ca/datamart</a> )
Recent high-resolution imagery to identify recent non-wildfire habitat disturbance, including forest harvest or other clearing.	At the discretion of the proponent.  Sentinel 2 imagery is publicly available on the Sentinel EO browser ( <a href="https://apps.sentinel-hub.com/eo-browser/">https://apps.sentinel-hub.com/eo-browser/</a> )
Woodland caribou occurrence records for Saskatchewan Note: although this data set is not detailed enough to inform site-specific planning, it should be reviewed as part of desktop screening as part of best practice.	HABISask ( <a href="http://www.biodiversity.sk.ca">www.biodiversity.sk.ca</a> ) Saskatchewan GeoHub ( <a href="https://environment-saskatchewan.hub.arcgis.com/pages/species-at-risk">https://environment-saskatchewan.hub.arcgis.com/pages/species-at-risk</a> )

Desktop screening may also include other information that may be available to proponents, such as the following:

- Ecosite mapping to update the calving habitat potential and foraging habitat potential maps, according to Table and Table , provided it is at a minimum 1:10,000 mapping scale and was completed within the last seven years.
- Forest harvest data to identify recently harvested areas and year of harvest.
- Infrastructure mapping (e.g. access trails, drill pads, temporary work camp sites) to identify recently cleared areas.

### 3.4 Desktop Screening Criteria

Potential risks to woodland caribou and their habitat depend on the nature of the planned project activities. Habitats at higher risk are generally defined based on the following criteria (Table B.4):

1. For project activities proceeding during the sensitive timing window (April 1 to July 31), habitats at higher risk are those that meet the following criteria:
  - a. High potential calving and/or high potential foraging habitat, where
  - b. Forest age is younger than five years (from wildfire disturbance) or older than 50 years (from any disturbance).
2. For new access creation and vegetation clearing, habitats at higher risk are those that meet the following criteria:
  - a. High potential calving and/or high potential foraging habitat, where
  - b. Forest age is older than 20 years.

New access creation or vegetation clearing is also considered higher risk in wildfire disturbances younger than five years if the activity occurs during the sensitive timing window.

The more stringent forest age criteria are used to define habitats at higher risk for vegetation clearing and new access creation because those activities set back the successional trajectory of the forest, delaying its recovery to higher value woodland caribou habitat. Areas recently disturbed by wildfire (< 5 years) are included as habitats at higher risk for sensory disturbance because woodland caribou can typically make use of these areas until fallen trees impede travel.

Table B.4. Definitions of habitats at higher risk, depending on project activity

Project Activity	Habitats at Higher Risk	Habitats at Lower Risk
Project activities during the sensitive timing window (April 1 to July 31)	<ul style="list-style-type: none"> <li>• Habitat with high potential for calving or foraging, where</li> <li>• Forest age is younger than five years (from wildfire disturbance) or older than 50 years (from any disturbance).</li> </ul>	<ul style="list-style-type: none"> <li>• Wildfire areas that are five to 50 years old.</li> <li>• Harvested or cleared areas less than 50 years old.</li> <li>• Low potential calving and foraging habitat.</li> </ul>
New access creation and vegetation clearing	<ul style="list-style-type: none"> <li>• Habitat with high potential for calving or foraging, where</li> <li>• Forest age is older than 20 years.*</li> </ul>	<ul style="list-style-type: none"> <li>• Forest age is 20 years old or younger.</li> <li>• Low potential calving and foraging habitat.</li> </ul>

\*New access creation or vegetation clearing is also considered higher risk in wildfire disturbances younger than five years if the activity occurs during the sensitive timing window.

### 3.4.1 Mitigation Guidelines

The desktop screening criteria should be used to plan project activities according to the following guidelines:

1. Project activities during the sensitive timing window (April 1 to July 31):
  - a. Locate higher risk activities<sup>4</sup> a **minimum of 250 m** outside of habitats at higher risk or reschedule higher risk activities to occur outside the sensitive timing window.
2. Vegetation clearing and creation of new access:
  - a. Locate new access/clearings a **minimum of 250 m** outside of habitats at higher risk.

If planned project activities cannot be completed according to these screening guidelines, or if a more comprehensive habitat assessment is preferred for project planning, a field assessment, described in section 4, is recommended. Field assessments may be used to verify and refine the risk assessment determined through desktop screening and to support mitigation planning (Figure B.1).

An example desktop screening for a hypothetical project area is provided in Figure B.2.

### 3.5 Reporting

Desktop screening results submitted to the ministry with a project proposal should include the following:

1. Confirmation that the personnel requirements for desktop screening in section 3.2 were met.
2. Confirmation that the recommended data sets were reviewed.
3. A description of any additional data sets that were reviewed and how they were considered in the desktop screening.
4. A map(s) and associated description of woodland caribou habitat risk classifications in the project area as per Table B.4.
5. A map(s) and associated description that demonstrates how the planned project activities avoid habitats at higher risk as per the guidance in section 3.4.
  - a. Any deviations from the desktop screening criteria outlined in section 3.4 should be fully described and justified, in consideration of the information provided in section 2.

### 3.6 Use in a Non-standard Mitigation Plan

If desktop screening is completed as part of a non-standard mitigation plan, the project proposal should include the following two commitments for the closure report:

1. The closure report should provide confirmation that all project activities in the scope of the non-standard mitigation plan were carried out as planned based on the desktop screening.
2. The closure report should include geotagged photos taken in the four cardinal directions at each project activity location in the scope of the non-standard mitigation plan. The photos should:
  - a. Be clearly labelled with coordinates.
  - b. Be taken before and after project activities for a reliable visual record of habitat values.
  - c. For new access, provide a reasonable representation of both the habitats traversed and the access construction methods.

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<sup>4</sup> Higher risk project activities are described in section 4.2 of the Mitigation Measures and Guidelines for Mineral Exploration Programs in the Boreal Plain (SK2) Caribou Conservation Unit and depend on whether a project is proposed in a high exploration activity area or a low exploration activity area.

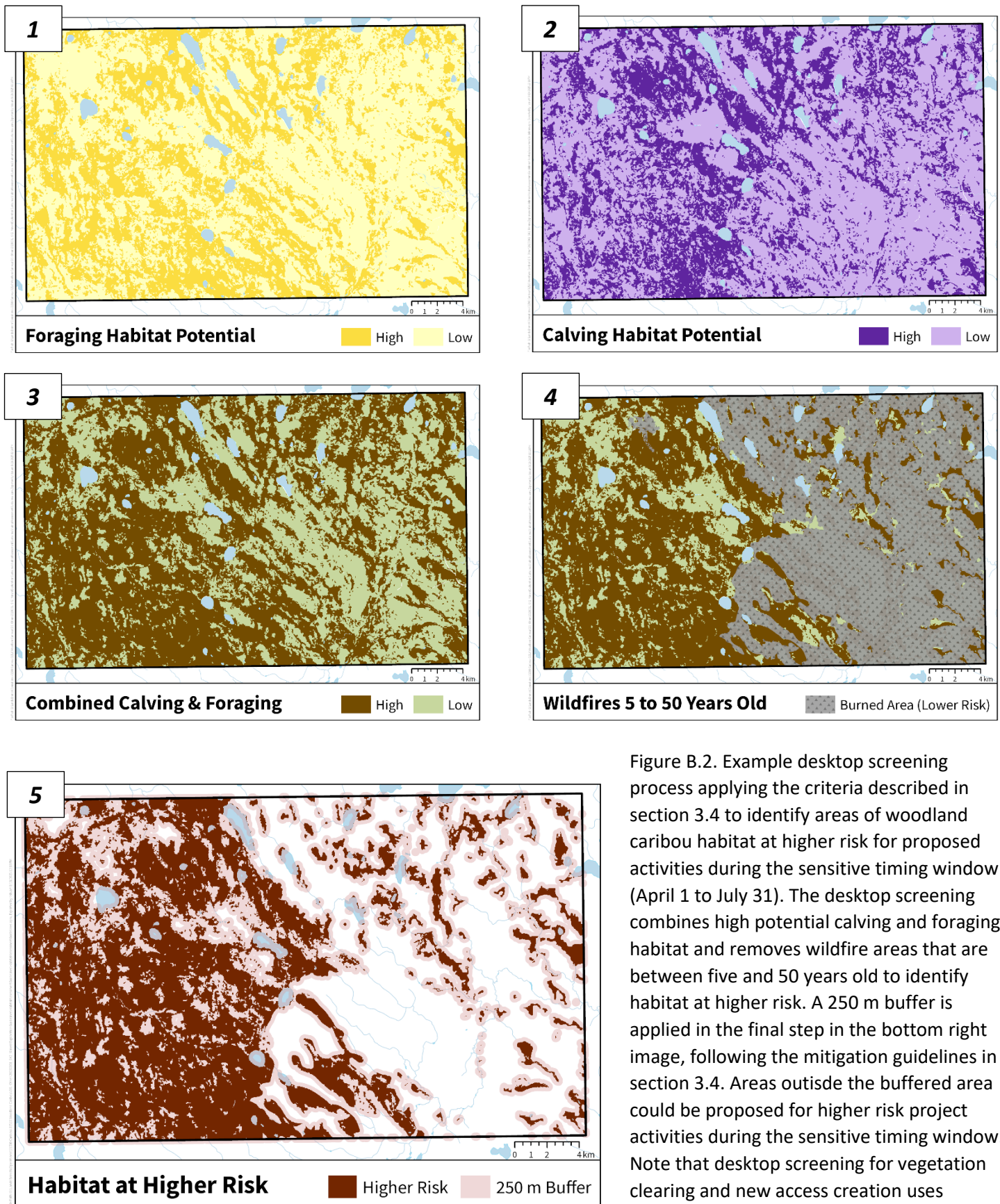


Figure B.2. Example desktop screening process applying the criteria described in section 3.4 to identify areas of woodland caribou habitat at higher risk for proposed activities during the sensitive timing window (April 1 to July 31). The desktop screening combines high potential calving and foraging habitat and removes wildfire areas that are between five and 50 years old to identify habitat at higher risk. A 250 m buffer is applied in the final step in the bottom right image, following the mitigation guidelines in section 3.4. Areas outside the buffered area could be proposed for higher risk project activities during the sensitive timing window. Note that desktop screening for vegetation clearing and new access creation uses different criteria to identify habitats at higher risk.

## 4 Field Assessment

### 4.1 Overview

Field assessments are intended to verify and update the woodland caribou habitat assessment established through desktop screening. The results of field assessments can also inform modifications to the desktop screening criteria described in section 3.4. Local or Traditional knowledge may also be integrated with the results of field assessments to inform project planning and proposed mitigations.

Considerations for refining habitat risk mapping based on field observations may include the following:

- Verification of, or revisions to, habitat potential classifications based on ecosite assessments.
- Verification of, or revisions to, stand age and/or disturbance history, including consideration of disturbance intensity (e.g. burn severity and vegetation recovery).

Consideration of the size or spatial arrangement of habitat patches in the context of the surrounding landscape. Detailed ecosite mapping is not necessary, but rapid ecosite assessments should follow McLaughlin et al. (2010). Additional fine scale observations may be documented to modify habitat assessments such as ungulate browse cover, lichen cover, blowdown, etc. Assessments may be completed through a combination of aerial reconnaissance and rapid ecosite assessments through ground plots.

Field assessments may proceed in two ways:

1. Pre-permit field assessment: This assessment is completed in advance of submitting a project proposal to the ministry. The objective of a pre-permit field assessment is to verify and refine the habitat mapping completed through desktop screening for the whole project area. The habitat assessment can be used to support project planning, including avoidance of habitats at higher risk, and/or the development of non-standard mitigation measures for inclusion in a non-standard mitigation plan.
2. Post-permit field assessment: This assessment is committed to as part of a project proposal. The field assessment involves identifying possible risks to woodland caribou and their habitat in the specific areas where project activities are planned, just before the work begins. A project proposal that commits to a post-permit field assessment as part of a non-standard mitigation plan should also outline the actions to be taken based on the results of that assessment. In addition, the project proposal should commit to reporting in the closure report whether those actions were carried out (refer to section 4.4.4).

Proponents can choose the field assessment and associated mitigation approach that best meets their program requirements; some considerations are presented in Table B.5. Recommendations for both types of field assessments are described further below.

**Proponents may consider engaging with the ministry to confirm their plan for field assessment is sufficient before undertaking field work.**

Table B.5. Considerations for selecting a pre-permitting or post-permitting field assessment approach.

	<b>Pre-permit field assessment</b>	<b>Post-permit field assessment</b>
Advantages	<ul style="list-style-type: none"> <li>• Supports pre-planning of activities over multiple years/permits</li> <li>• Increased certainty for project execution</li> <li>• Larger spatial scope of data collection and mapping can contribute to baseline habitat mapping to support future project proposals</li> </ul>	<ul style="list-style-type: none"> <li>• Lower cost</li> <li>• Completed immediately in advance of project execution and can respond to changing program needs</li> </ul>
Disadvantages	<ul style="list-style-type: none"> <li>• Higher cost</li> <li>• Field assessments must be planned well in advance of submitting a project proposal</li> <li>• Field assessments may require separate authorizations from the ministry</li> </ul>	<ul style="list-style-type: none"> <li>• Lower certainty for project execution</li> <li>• Limited use for subsequent project activities/permits due to limited spatial scope</li> </ul>

## 4.2 Personnel Requirements

All field assessments should be planned and executed by personnel with the following general competencies:

1. Familiarity with the classification and mapping of forested ecosites in Saskatchewan.
2. Knowledge of woodland caribou life history, biology, and behaviour.
3. Experience planning and conducting field work to verify mapped ecosites and habitat conditions.
4. Ability to identify suitable woodland caribou habitats in the field.
5. Ability to integrate, analyze and interpret field data, geospatial data and imagery to identify habitats at higher risk relative to the planned project activities.

Procurement of third-party services (e.g. a reputable environmental consulting firm) is recommended to meet the personnel requirements for field assessments.

## 4.3 Pre-permit Field Assessment

### 4.3.1 Spatial Scope and Scale

Pre-permit field assessments should be completed for the proposed project area, including all planned activities and a minimum 500 m buffer to ensure adjacent habitat and its value is understood and to provide options for mitigation. Any potential changes to the locations of the proposed project activities should be captured in the assessment. Proponents may find value in expanding the spatial scope to include potential future project areas or an entire subsurface disposition, considering the investment required for the field assessments.

Habitat mapping should be completed at a scale appropriate to the extent of the exploration program and the anticipated disturbance. A spatial scale of 1:10,000 with a minimum polygon size of 0.5 to 1.0 ha is recommended for habitat mapping. Disturbance mapping should be completed at a scale of 1:5,000 to be compatible with provincial disturbance mapping.

### 4.3.2 Information Requirements

Pre-permit field assessments should evaluate and document a reasonable representation of the habitat risk categories in Table B.4 (i.e. habitat potential, estimated stand age) in the study area, and should be designed considering the following:

1. Field sampling (ground plots and aerial reconnaissance) should be stratified according to the desktop screening criteria identified in section 3.4 (i.e. considering habitat potential including calving and forage habitat potential and stand age).
2. Ground verification should be emphasized in areas of high overall habitat potential, high calving habitat potential and high forage habitat potential identified in the desktop screening.
3. Ground verification should be more intense in areas of potential project activities to increase mapping accuracy in support of mitigation planning.
4. Field assessment should be completed during the growing season to ensure accurate assessment of habitat values. Aircraft flights should be avoided or minimized over areas with high calving habitat potential during the sensitive timing window for woodland caribou (April 1 to July 31), where practical.

#### **4.3.3 Reporting**

Habitat assessments submitted to the ministry as part of a project proposal should include the following:

1. Confirmation that the personnel requirements for field assessments in section 4.2 were met.
2. A description of the study area considered for the habitat assessment.
3. Confirmation that the recommended data sets were reviewed in desktop screening and a description of any additional data sets that were reviewed.
4. A detailed description of the field verification program, including the following:
  - a. How field sampling locations were determined.
  - b. The locations of ground plots and/or aerial reconnaissance completed, including maps.
  - c. The field assessment protocol.
  - d. A summary of information collected at each assessment location.
    - i. Information should include geotagged photos taken in the four cardinal directions at each assessment location, clearly labelled with coordinates.
5. Map(s) and description of the woodland caribou habitat values in the study area according to the criteria in section 3.4 resulting from the combination of desktop screening and field verification.
  - a. Any deviations from the desktop screening criteria outlined in section 3.4 should be fully described and justified, in consideration of the information provided in section 2.
6. A summary and map of observations of woodland caribou and woodland caribou sign recorded during the field assessment. All observations should also be reported to the: Saskatchewan Conservation Data Centre using the Report a Woodland Caribou Sighting website (<https://biodiversity.sk.ca/reportcaribou.htm>) or the incidental species observation load form (<http://biodiversity.sk.ca/Docs/SKCDCLoadform.xlsx>).

#### **4.3.4 Use in a Non-standard Mitigation Plan**

If the pre-permit field assessment was completed to inform a non-standard mitigation plan, the non-standard mitigation plan should include the following:

1. Reporting on the habitat assessment as described in section 4.3.3.
2. Map(s) and associated description that demonstrates how the planned project activities align with the habitat risk assessment, considering the guidelines in section 3.4 and the information provided in section 2.
3. A description of how the project plan has considered known woodland caribou occurrence in the project area, if information is available.
4. Mitigation measures based on the habitat risk assessment if deviations from the guidelines in section 3.4 are proposed.

5. A commitment to confirm in the closure report that the proposed mitigation measures were successfully carried out.
  - a. The closure report should also include geotagged photos taken in the four cardinal directions at each location of project activities in the scope of the non-standard mitigation plan. The photos should:
    - i. Be clearly labelled with coordinates.
    - ii. Be taken before and after project activities to provide a reliable visual record of habitat values.

#### **4.4 Post-permit Field Assessment**

##### **4.4.1 Spatial Scope and Scale**

Post-permit field assessments are intended to be completed in targeted areas where higher risk project activities are anticipated. Post-permit field assessments should focus on the following:

- Areas where higher risk project activities are planned for the sensitive timing window.
- Areas where new vegetation clearing or access creation is planned, especially those areas identified as having habitats at higher risk in the desktop screening.

A minimum 250 m buffer around planned activities is recommended to ensure directly adjacent habitat and its value is understood, and to provide options for mitigation. Any potential changes to the locations of the proposed project activities described above should be captured in the study area.

Habitat mapping should be completed at a scale appropriate to the extent of the exploration program and the anticipated disturbance. A spatial scale of 1:10,000 with a minimum polygon size of 0.5 to 1.0 ha is recommended for habitat mapping. Disturbance mapping should be completed at a scale of 1:5,000 to be compatible with provincial disturbance mapping.

##### **4.4.2 Information Requirements**

Post-permit habitat assessments should focus on evaluating habitat values in targeted areas where higher risk activities are planned, and should be designed considering the following:

1. A combination of aerial and ground assessments may be used.
2. Ground verification should be emphasized in areas of high overall habitat potential, high calving habitat potential and high forage habitat potential identified in the desktop screening, as appropriate to the project activities proposed in those areas (section 3.4).
3. Field assessments should be conducted during the growing season to ensure accurate assessment of habitat values. Aircraft flights should be avoided or minimized over areas with high calving habitat potential during the sensitive timing window for woodland caribou (April 1 to July 31), where practical.

##### **4.4.3 Reporting**

Post-permit field assessments should be submitted as part of the closure report. Reporting should include the following:

1. Confirmation that the personnel requirements for field assessments in section 4.2 were met.
2. A description of the study area considered for the assessment.
3. Confirmation that the recommended data sets were reviewed in desktop screening and a description of any additional data sets that were reviewed.

4. A detailed description of the field verification program, that includes the following:
  - a. How field assessment locations were determined.
  - b. The locations of ground plots and/or aerial reconnaissance completed, including maps.
  - c. The field assessment protocol.
  - d. A summary of information collected at each assessment location.
    - i. Information should include geotagged photos taken in the four cardinal directions at each assessment location, clearly labelled with coordinates.
5. Map(s) and description of the woodland caribou habitat values in the study area according to the criteria in section 3.4 resulting from the combination of desktop screening and field verification.
  - a. Any deviations from the desktop screening criteria outlined in section 3.4 should be fully described and justified, in consideration of the information provided in section 2.
6. A summary and map of observations of woodland caribou and woodland caribou sign recorded during the field assessment. All observations should also be reported to the: Saskatchewan Conservation Data Centre using the Report a Woodland Caribou Sighting website (<https://biodiversity.sk.ca/reportcaribou.htm>) or the incidental species observation load form (<http://biodiversity.sk.ca/Docs/SKCDCLoadform.xlsx>).

#### **4.4.4 Use in a Non-standard Mitigation Plan**

If a proponent proposes a post-permit field assessment as part of a non-standard mitigation plan in their project proposal, the non-standard mitigation plan should include the following:

1. Reporting on the results of desktop screening as described in section 3.5.
2. A description of how the project plan reflects the habitat risk assessment, considering the guidelines in section 3.4.
3. A commitment to a post-permit field assessment that follows the guidelines in this section.
4. Mitigation commitments to respond to the results of the post-permit field assessment.
  - a. Mitigation commitments should include consideration of any woodland caribou observations made during the field assessments.
5. A commitment to include the following information in a closure report:
  - a. The results of the post-permit field assessment, as described in section 4.4.3.
  - b. The mitigation measures that were carried out in response to the post-permit field assessment results.
  - b. Geotagged photos taken in the four cardinal directions at each location of project activities in the scope of the non-standard mitigation plan. The photos should:
    - i. Be clearly labelled with coordinates.
    - ii. Be taken before and after project activities to provide a reliable visual record of habitat values.

## References

- Finnegan, L. S. Stevenson, C. Johnson, and T. McKay. 2021. Caribou, Fire, and Forestry. Literature review prepared for the Alberta Regional Caribou Knowledge Partnership, February 2021. Iii + 23pp.
- Konkolics, S., M. Dickie, R. Serrouya, D. Hervieux, and S. Boutin. 2021. Journal of Wildlife Management 1-14.
- McLaughlan, M.S., R.A. Wright, and R.D. Jiricka. 2010. Field guide to the ecosites of Saskatchewan's provincial forests. Saskatchewan Ministry of Environment, Forest Service. Prince Albert, Sk. 343 pp.
- Saskatchewan Ministry of Environment. 2019. Range Plan for Woodland Caribou in Saskatchewan: Boreal Plain Ecozone Appendices – SK2 Central Caribou Administration Unit. Saskatchewan Ministry of Environment. Regina, SK. 67 pp.
- Saskatchewan Ministry of Environment. 2013. Conservation Strategy for Boreal Woodland Caribou (*Rangifer tarandus caribou*) in Saskatchewan. Saskatchewan Ministry of Environment. Fish and Wildlife Technical Report 2014.
- Skatter, H.G., M.L. Charlebois, S. Eftestøl, J.E. Colman, J.L. Kansas, K. Flydal, and B. Balicki. 2017. Living in a burned landscape: woodland caribou (*Rangifer tarandus caribou*) use of postfire residual patches for calving in a high fire – low anthropogenic Boreal Shield ecozone. Canadian Journal of Zoology 95:975-984.
- Skatter, H.G., J.L. Kansas, M.L. Charlebois, and B. Balicki. 2014. Recovery of terrestrial lichens following wildfire in the Boreal Shield of Saskatchewan: early seral forage availability for woodland caribou (*Rangifer tarandus caribou*). Canadian Wildlife Biology and Management 3(1):1-14.
- Silva, J.A., S.E. Nielsen, P.D. McLoughlin, A.R. Rodgers, C. Hauge, and S. Boutin. 2020. Comparison of pre-fire and post-fire space use reveals varied responses by woodland caribou (*Rangifer tarandus caribou*) in the Boreal Shield. Canadian Journal of Zoology 98:751-760.

## APPENDIX C – Environmental Monitor Qualifications and Responsibilities for Mineral Exploration Programs

This appendix outlines the required qualifications and core responsibilities of environmental monitors employed on mineral exploration programs in the SK2 Caribou Conservation Unit.

Environmental monitoring has become an increasingly common and important service associated with natural resource exploration and development and construction projects located in ecologically sensitive areas. Monitors can help ensure regulatory compliance, oversee activities that may adversely affect the environment, provide environmental documentation and reporting services, educate contractors on environmental requirements and best practices, suggest alternative environmental mitigation options based on current site conditions, conduct vegetation and wildlife reconnaissance, and communicate concerns with regulators.

Environmental compliance monitoring is a mitigation option; it is not a requirement for all projects. A proponent may choose to retain an environmental monitor to fulfill the requirements of the standard mitigation option, as part of a non-standard mitigation plan, or as an additional measure that goes beyond the expectations in this document. Environmental monitoring services may be retained for all or a portion of a project depending on the mitigation approach being implemented by a proponent. For example, a monitor could be employed during the sensitive timing window for woodland caribou to meet an applicable standard mitigation requirement for higher risk activities. Following the sensitive timing window, the monitor could remain on-site to continue providing services that exceed the requirements for the standard mitigation approach. The primary role of the monitor will be to ensure that the commitments, including regulatory approval conditions, made by the proponent to minimize woodland caribou sensory disturbance and habitat degradation and alteration are fulfilled.

The employment of an environmental monitor under the direction of this document is independent from the Government of Saskatchewan's duty to consult with and accommodate, as appropriate, potentially impacted First Nations and rights-bearing Métis communities. Separate from the role and responsibilities described in this appendix, the ministry may require a proponent to provide a community representative (e.g. knowledge holder, community liaison, Indigenous environmental monitor) to oversee project activities as an accommodation supported by the [First Nation and Métis Consultation Policy Framework](#) and/or for environmental concerns not directly related to woodland caribou.

The ministry acknowledges that environmental monitoring services have not typically been required as a condition of approval for the mineral exploration industry in northern Saskatchewan in the past. As a result, there may be a limited supply of qualified and experienced environmental professionals available to provide these services. This is a relatively new career option in the mineral exploration industry, and it will take time to attract, educate, train and develop professionals to fill these roles. Of particular importance is enabling Indigenous participation in economic activity occurring on Traditional lands and involvement in woodland caribou and woodland caribou habitat protection. As such, the ministry has included Phase-In Options for some of the qualification requirements below. These options are included to support the goal of environmental monitoring capacity-building in northern Saskatchewan. The phase-in options are intended to be temporary. As more environmental monitoring educational and training opportunities are developed

and offered in Saskatchewan and the supply of experienced environmental monitors grows, the ministry may amend the qualification requirements and/or remove the phase-in options.

## Environmental Monitor Qualifications

### Education

- A post-secondary degree or diploma in environmental sciences, terrestrial biology, ecology, natural resource management, or similar; or
- The [ECO Canada Building Environmental Aboriginal Human Resources \(BEAHR\) Certificate of Applied Environmental Techniques \(CAET\)](#); or
- The [National Aboriginal Lands Managers Association Professional Lands Management Certification Program \(PLMCP\)](#) certificate.

### Phase-In Options

- An environmental monitoring certificate from a reputable training program offered outside of Saskatchewan. Examples include:
  - [Ontario Northern College Environmental Monitoring Certificate](#)
  - [University of Northern British Columbia Environmental Monitoring Certificate](#) (available online)
  - [Vancouver Island University Environmental Technician Certificate Program](#); or
- The [ECO Canada BEAHR Environmental Monitoring Coordinator \(Research & Regulatory\) Certificate](#).

### Knowledge and Skills

- Knowledge of general mineral exploration practices, including but not limited to the following: prospecting, geophysical survey techniques, diamond or other drilling, trenching, mechanical vegetation clearing, and associated environmental protection measures.
- Familiarity with the Saskatchewan Mineral Exploration and Government Advisory Committee (SMEGAC) [Mineral Exploration Guidelines for Saskatchewan](#) and the associated Best Management Practices (BMPs)<sup>5</sup>.
- Familiarity with the Ministry of Environment's *Mitigation Measures and Guidelines for Mineral Exploration Programs in the Boreal Plain (SK2) Caribou Conservation Unit*, to which these environmental monitor qualifications and responsibilities are appended.
- Comprehension of typical regulatory approval processes, conditions and requirements for mineral exploration projects in Saskatchewan.
- Understanding of the general ecology of Saskatchewan's boreal forest and the project area ecoregion.
- Woodland caribou and caribou sign identification skills, and knowledge of caribou life history, behaviour, biophysical habitat attributes, predators and predation dynamics, and protection measures.
- Strong observational, analytical, communication, interpersonal, and problem-solving skills.
- Preference for individuals with knowledge and skills complementary to general environmental construction and operation monitoring (e.g., hazardous substances and waste dangerous goods management, erosion control, rare species identification, hydrology, reclamation and habitat restoration).

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<sup>5</sup> Saskatchewan Mineral Exploration and Government Advisory Committee (SMEGAC). 2016. *Mineral Exploration Guidelines for Saskatchewan*. <https://publications.saskatchewan.ca/#/products/76977>

## Experience

- Minimum two years of field experience related to environmental monitoring, wildlife surveying, forest ecosite classification, environmental baseline studies, forested ecosystem research, or similar.
- Monitors are expected to work independently and have developed the skills and experience to take responsibility for their observations, documentation, communications, recommendations and directions. Individuals are also expected to recognize their limitations and must seek additional expertise if their knowledge in a specific subject matter is insufficient.

### *Phase-In Option*

- An individual with less than two years of field experience as described above may be employed as an environmental monitor on a specific project if the following conditions are met:
  - They work concurrently with a fully qualified monitor who delivers on-the-job training and mentoring scoped to the specific activities, timing and location of a single project. Following completion of this training period, the less experienced monitor may work independently as the project environmental monitor for the remainder of the project phase (e.g., drilling during the sensitive timing window for caribou).
  - An initial minimum training period is to include 10 days (not necessarily consecutive) of on-site overlap with the trainer on a single project. Refresher training periods are required if the trainee is subsequently employed during a different season or in following years. If a full  $\geq 10$ -day initial training period has previously been completed on a single project in a prior season/year the minimum duration of these supplemental training periods is reduced to five days.
  - The individual is provided with contact information for subject matter experts (e.g., the fully trained environmental monitor who provided the on-site training and mentoring to the trainee) that the proponent has ensured are available to support field decisions and provide additional guidance to the trainee following completion of the initial training period and persisting throughout the individual's time as the project environmental monitor; and
  - The individual is not responsible for monitoring more than two drills operating concurrently, and the scope and complexity of the project during the training period and during the time when the monitor is working independently remain comparable.

## Equivalency

- Individuals having a combination of education, knowledge, skills and experience equivalent to the requirements above may be utilized as environmental monitors.
- The ministry acknowledges that land users who have lived, worked, recreated and engaged in hunting, fishing, trapping and other Traditional uses on the landscape may have developed knowledge, skills and experiences that would be valuable in fulfilling some of the functions of an environmental monitor. The proponent is responsible for assessing the equivalency of such experiences with the knowledge and skills listed above and the capability of individuals to act as environmental monitors who fulfill the mandatory responsibilities below.

## Environmental Monitor Responsibilities

- Must complete scouting for caribou and caribou sign within the vicinity planned activities and within one week prior to initiation of the activities. Scouting may also include identifying areas of high habitat value unless they have already been mapped in a field habitat assessment.
- Must participate in field planning meetings and assist with finalizing project activity siting and routing based on the results of caribou and habitat scouting, where appropriate.
- Must monitor mechanical vegetation clearing and initial drill set-up and operation.
- Must make daily visits to monitor operating drills, provided no additional helicopter trips are needed to meet this requirement. The frequency of site visits may be reduced to accommodate the minimization of helicopter flights.
  - The monitor may stay on-site for longer durations while higher risk activities are conducted if elevated risk to caribou or caribou habitat is identified.
- One monitor may be responsible for monitoring up to four drills; a second monitor must be provided if more than four drills are operating concurrently.
- Has stop work authority and can provide idle down and resume work direction in response to caribou observations that may differ from the standard mitigation measures (while prioritizing worker health and safety).
- All on-site personnel must be directed to immediately report observations of caribou and caribou sign to the monitor and follow direction provided, if any.
- Must communicate with the ministry Ecological Management Specialist when caribou or caribou sign are observed to discuss potential mitigation responses.
- Must contribute monitoring observations and documentation to the environmental as-built report prepared by the proponent and submitted to the ministry.
- Environmental monitors are expected to recognize the limits of their education, training, skills and experience. Individuals must seek additional expertise if their knowledge in a specific subject matter is insufficient to provide informed advice.

### Additional Environmental Support

- May monitor project activities for other environmental concerns and communicate potential issues or non-compliances to the proponent (e.g., potential impacts to water features or riparian areas; reclamation methods; spill prevention and response; elevated risks to migratory birds).
  - Proponents are responsible for reporting non-compliances to the ministry or other regulators, as applicable.
- May assist the proponent in following up on reported environmental non-compliances and corrective actions, as requested by the ministry Ecological Management Specialist.
- May provide verbal and/or visual educational materials to inform contractor personnel of the importance of woodland caribou conservation in Saskatchewan, applicable mitigation measures, best practices, identification advice, etc. and to answer contractor questions (e.g., deliver caribou-themed tailgate or orientation meeting prior to project start-up and periodically throughout longer programs and for crew changes).

## Procurement

- The procurement of environmental monitoring services from a third party is preferred to ensure a degree of independence from the proponent and to minimize real or perceived conflicts of interest (e.g., services contracted from a reputable environmental consulting firm with monitoring specialists or sourced from trained First Nation or Métis Local staff).
- Alternatively, proponents may supply environmental monitoring services using internal staffing resources if the environmental monitor:
  - Is not a staff member with supervisory responsibilities (e.g., the monitor can not be the project geologist, project manager or site supervisor);
  - Is not an employee of a subcontractor carrying out activities that are subject to monitoring;
  - Has a clear segregation of duties such that real or perceived conflicts of interest are avoided or minimized;
  - Has the capacity and availability to fulfill the mandatory responsibilities listed above; and
  - Meets the other qualifications for environmental monitors outlined in this appendix.
- If a proponent chooses to use internal staff for the environmental monitoring role, they must provide the ministry with a written statement, before deployment, including:
  - The person's name, title and a description of how the individual meets the qualification requirements listed in this appendix; and
  - A declaration that the monitor will not be subject to any influences, pressures or conflicts of interest that may compromise the fulfillment of their environmental compliance monitoring role and responsibilities, as described in this appendix.
- Consideration should be given to utilizing Indigenous monitors with land interests, knowledge of Traditional land uses, and/or an understanding of regional environmental sensitivities and concerns.
- Specific individuals do not need to be identified as anticipated environmental monitors in project proposals.